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# INSTITVTIONIS ASTRONOMICAE TOMVS TERTIVS,

SIVE

# Hiſtoria Aſtronomica.

QVÆ

quatuor modis hiſtoriam de aſtrorum ſitubus explicat;

I. In Planiſphærio.
II. In Lineamentis Geometricis.
III. In Triangulis ſphæricis.
IV. In Tabulis Aſtronomicis.

FRANEKERÆ,
Apud AEGIDIVM RADAEVM
Ordinum FRISIAE Typograph.

CIↃ. IↃ. CVI.

BIBLIOTECA NAZ. VITTORIO EMANUELE ROMA

12 34 B 31

# *Ampliſs. ac Prudentiſs.*
## *REIPVB.*
## ALCMARIANAE MAGISTRATVI,
*S.*

ETSI aliquot jam annos, viri ampliſsimi, ac prudentiſsimi ab urbe veſtra vixi, in qua natus, in cujus ſinu educatus ſum: is tamen natalis Soli apud me remanſit amor, ut votum perſæpe fuerit, non tam cum Vlyſſe

*Fumum de patriis poſſe videre focis*

Quam erga patriam, cui poſt Deum potiſſime natum me cum Platone profiteor, gratam aliquam mei memoriam exſtare. Sed votum quod hactenus teſtari datum non fuit, de cujus tamen fide ut aliis tandem exſtaret, partem hãc operis mei, quod in otio hoc Academico omnibus Aſtronomiæ ſtudioſis deſudavi, publico nomini veſtro inſcribere placuit, non uno nomine vobis, inquam, qui non tantum patriæ urbis gubernacula ſumma prudentia

auto-

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autoritate tenetis ac flectitis, ſed & optime de omnibus ac ſingulis mereri ſtudetis. Nam quanta benevolentia parentem meum ſaltem proſequuti uſque ſitis, quid attinet dicere? quem vobis ſæpe collegam debitò honore atque amore coluiſtis? quē conſularem civem etiam nunc ſolito favore dignari non diſiſtitis? Vnde quid mihi, quid fratribus meis, ac propinquis exſpectandum a vobis fuerit, ſi uſus poſcat, perſpicue palam eſt. Itaque merito, & eo etiam audentius hoc vobis munuſculum offero, viri Ampliſsimi ac prudentiſsimi, quæ veſtra eſt humanitas, ſperans haud ingratum fore, nam etſi levidenſe quidem illud fateor, nec pro meritis veſtris ac dignitate: tale tamen velim id habeatis, quod animum gratum ac officioſum vobis veſtræque reipub. ſemper præ ſe feret. Valete, ex illuſtri Friſiæ Academia, quę eſt Franequeræ, Ipſis calendis Auguſti CIↃ. IↃ. CVI.

*Veſtr. amplitud. addictiſs.*

Adrianus Metius.

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ATque ita ſphæricorum triangulorum canonē per aſtrolabiũ exhibuimus, calculum quoque eorundem, tum & planorum triangulorum, per diatypoſin ſubjecimus; ita ut quæ ſpeciatim ab aliis, & prolixe valde propoſita ſunt, commodius faciliuſque hinc inveſtigentur.

Nunc vero in hoc ſolũ nobis elaborandũ eſt, ut præteriti laboris fructus colligamus: & ut optimi agricolę, qui poſt exantlatos ſtercorationis ſeminationiſque labores, ad meſſem maturam jam metiendam alacres tandem, ac impigrè accedunt: Ita & nos in præſentia ab iis, quæ huc uſque fundamenta jacta ſunt, uberrimam tandem frugem, operæpretiumque laboris expectabimus, atq; colligemus.

Sed ne longis ambagibus res ipſa differatur, a ſingularum partium diſtributione auſpicandum, quas deinde per ſingula capita exſequemur.

*Inſtitutionem aſtronomicam quam exhibemus in duas dividimus partes.*

## Obſervatricem & Hiſtoriam.

OBSERVATRIX eſt ſcientia de obſervandis aſtris, hoc eſt, quæ per certa inſtrumenta Geometrica ſitus, & motus aſtrorũ in cælo ſcrutatur & exquirit, hiſtoriamque

Phænomenωn ſive apparentiarum colligit, & per convenientes Hypotheſes conſcribit.

[ Dictum enim eſt in principio libelli ſphærici fundamenta hujus ſanctiſsimæ artis originem ducere ab obſervationibus de cælo ſumptis, in primis enim aſtronomus artificioſa inquiſitione hiſtoriam motuum cæleſtium colligit, plurimaſque eorundem apparentias ſibi comparat. Deinde Hypotheſes conſtituit, quibus cauſæ & rationes apparentiarum redduntur.

Tandem Hypotheſes illas Geometrice examinatas, vel numeris expendit, vel per inſtrumenta exhibet, ex quibus abſque obſervationibus etiam prædicti motus ad omnia tempora haberi poſſunt. Priora igitur duo ad Obſervatricem, poſterius vero membrum ad Hiſtoricam referimus.]

HISTORICA eſt quæ de aſtris hiſtoriam, per artificum obſervationes conſcriptam, & collectam tradit & perſequitur, & hæc quia facilior præmittenda hoc tom. 3. Illamque reſervamus ad Tom. 4.

*Hiſtoria eſt aut de ſitu, aut phænomenis aſtrorum, & utraque conſideratur reſpectu motus primi vel ſecundi. Sed Phænomena & cauſas eorundem ſatis ſuperque explicavimus in Tom 1.*

*Porro ſituum ſtellarum diſtributionem adumbravimus in Tabula pag. 77 tom. 1 l. 2. Quæ huc quoque referenda. Namque ſingula illa eodem ordine per capita proſequemur.*

Caput

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## CAPUT I.

### Ad datum tempus ſive anni diem hujus noſtri ſeculi verum ſolis locum, & oppoſitam ejus partem in ecliptica indagare: & contra, ex dato & cognito ſolis loco, quis ſit anni dies concludere.

Inquiſitio per Aſtrolabium.

*In volvello planiſpharii noſtri deſcripſimus calendarium, cujus menſes & dies, juxta calendarium gregorianum, ſignis & gradibus Zodiaci ſuprapoſiti reſpondet. Dioptra itaque ſecundum fiduciæ lineam ad propoſitum menſem et diem ſtyli novi admota, oſtendet in Zodiaco ſignum ſigniq; gradum, in quo Sol eo ipſo die exiſtit: ſed in annis biſextilibus ut præciſius locus ſolis habeatur poſt 28 Febr. ſuperaddendus integer ſemper dies ad tempus propoſitum.*

[ Vt ſi quæras locum ſolis ad 20 diem aprilis anni currentis 1604, Quia hic annus biſſextus eſt, applicabis regulam in calendario ad 21 diem aprilis, oſtenditque decimum gradum cum ſemiſſe ♉. In eadem ecliptica,

ex adverſa ejus parte indicatur oppoſitus ſolis locus, Nadir dictus, ſcilicet 1 $\frac{1}{2}$ ♏.]

*Porro ſicut dies menſis locum ſolis oſtendit: ita viciſſim locus ſolis diem menſis patefacit.*

Inquiſitio per tabulam.

*Quia vero ſol omnium aſtrorum curſus, motuumque leges diſponit ac moderatur, adeo ut ſine certa exactaque ipſius curriculi cognitione non ſolum aliorum ſex planetarum, ſed & fixarum ſtellarum ſitus, ac motiones præfinire fruſtra quis tentarit.*

*Summopere laudandus Nobiliſſ. & præclariſſ. vir D. Tycho a Brahe Danus (cujus curæ in reſtauranda complendaque aſtronomia nunquam ceſſarunt) quod ea, quæ ad ſolaris curriculi accuratam, ipſique cælo reſpondentem reſtitutionem faciunt, perveſtigarit, et accuratam perveſtigationis rationem cæteris omnibus præmiſerit & apertam tradiderit. Ex cujus quidem fundamentis & tabulis locum ſolis ad ſingulos quinos dies anni currentis 1606 ſupputatum, per tabulam ſubſequentem exhibemus, ex qua ſatis curioſe pro annis aliquibus præterlapſis & ſubſequentibus locus ſolis erui poterit, ubi*

ſpecta-

*ſpectare licet tabulam ſive ephemeridem iſtã continere columnas tres. Prima exhibet quinos dies menſium: Secunda locum ſolis verum in gradibus, minutis, & ſecundis. Tertia & ultima columna oſtendit motum ſolis diurnum in minutis & ſecundis.*

Ephemeris ſolis ad annum 1606 ex fundamentis Tychonis Brahe ſupputata.

| dies | *Ianuarius.* Locus Solis gr. | M. | S. | motus diurn°. | |
|---|---|---|---|---|---|
| 0 | 20 | 16 | 54 | 61 | 15 |
| 5 | 25 | 23 | 4 | 61 | 10 |
| 10 | ♒ 0 | 28 | 54 | 61 | 5 |
| 15 | 5 | 34 | 24 | 61 | 0 |
| 20 | 10 | 39 | 23 | 60 | 55 |
| 25 | 15 | 43 | 53 | 60 | 48 |
| 31 | 21 | 47 | 56 | 60 | 36 |
| | *Februarius.* | | | | |
| 0 | 21 | 47 | 56 | 60 | 36 |
| 5 | 26 | 50 | 50 | 60 | 26 |
| 10 | ♓ 1 | 52 | 57 | 60 | 17 |
| 15 | 6 | 54 | 14 | 60 | 6 |
| 20 | 11 | 54 | 43 | 59 | 58 |
| 25 | 16 | 54 | 22 | 59 | 45 |
| 28 | 19 | 53 | 38 | 59 | 40 |

| dies | *Martius.* Locus Solis gr. | M. | S. | motus diurn° | |
|---|---|---|---|---|---|
| 0 | 19 | 53 | 38 | 59 | 39 |
| 5 | 24 | 51 | 47 | 59 | 31 |
| 10 | 29 | 49 | 3 | 59 | 21 |
| 15 | ♈ 4 | 45 | 25 | 59 | 9 |
| 20 | 9 | 40 | 47 | 59 | 0 |
| 25 | 14 | 35 | 15 | 58 | 50 |
| 31 | 20 | 27 | 35 | 58 | 37 |
| | *Aprilis.* | | | | |
| 0 | 20 | 27 | 35 | 58 | 37 |
| 5 | 25 | 20 | 14 | 58 | 26 |
| 10 | ♉ 0 | 12 | 2 | 58 | 15 |
| 15 | 5 | 2 | 56 | 58 | 6 |
| 20 | 9 | 53 | 3 | 57 | 57 |
| 25 | 14 | 42 | 42 | 57 | 48 |
| 30 | 19 | 28 | 55 | 57 | 40 |

*Majus.*

| dies | Locus Solis gr. | M. | S. | motus diurn°. | |
|---|---|---|---|---|---|
| 0 | 19 | 28 | 55 | 57 | 40 |
| 5 | 24 | 19 | 27 | 57 | 33 |
| 10 | 29 | 7 | 24 | 57 | 28 |
| 15 | ♊ 3 | 54 | 36 | 57 | 21 |
| 20 | 8 | 41 | 21 | 57 | 16 |
| 25 | 13 | 27 | 43 | 57 | 12 |
| 31 | 19 | 10 | 59 | 57 | 9 |

*Junius.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 19 | 10 | 59 | 57 | 9 |
| 5 | 23 | 56 | 41 | 57 | 7 |
| 10 | 28 | 42 | 16 | 57 | 6 |
| 15 | ♋ 3 | 27 | 49 | 57 | 5 |
| 20 | 8 | 13 | 20 | 57 | 6 |
| 25 | 12 | 58 | 50 | 57 | 8 |
| 30 | 17 | 44 | 28 | 57 | 10 |

*Julius.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 17 | 44 | 28 | 57 | 10 |
| 5 | 22 | 30 | 15 | 57 | 12 |
| 10 | 27 | 16 | 13 | 57 | 16 |
| 15 | ♌ 2 | 2 | 29 | 57 | 20 |
| 20 | 6 | 49 | 10 | 57 | 26 |
| 25 | 11 | 36 | 19 | 57 | 32 |
| 31 | 17 | 21 | 31 | 57 | 39 |

*AVguſtus.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 17 | 21 | 31 | 57 | 39 |
| 5 | 22 | 9 | 46 | 57 | 47 |
| 10 | 26 | 58 | 38 | 57 | 55 |
| 15 | ♍ 1 | 48 | 12 | 58 | 4 |
| 20 | 6 | 38 | 29 | 58 | 13 |
| 25 | 11 | 29 | 30 | 58 | 24 |
| 31 | 17 | 19 | 46 | 58 | 36 |

*September.*

| dies | Locus Solis gr. | M. | S. | motus diurn° | |
|---|---|---|---|---|---|
| 0 | 17 | 19 | 46 | 58 | 36 |
| 5 | 22 | 12 | 34 | 58 | 48 |
| 10 | 27 | 6 | 13 | 58 | 57 |
| 15 | ♎ 2 | 0 | 46 | 59 | 7 |
| 20 | 6 | 56 | 13 | 59 | 19 |
| 25 | 11 | 52 | 37 | 59 | 29 |
| 30 | 16 | 49 | 54 | 59 | 40 |

*October.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 16 | 49 | 54 | 59 | 40 |
| 5 | 21 | 48 | 5 | 59 | 52 |
| 10 | 26 | 47 | 12 | 60 | 0 |
| 15 | ♏ 1 | 47 | 13 | 60 | 11 |
| 20 | 6 | 48 | 5 | 60 | 20 |
| 25 | 11 | 49 | 44 | 60 | 30 |
| 31 | 17 | 52 | 44 | 60 | 41 |

*November.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 17 | 52 | 44 | 60 | 41 |
| 5 | 22 | 26 | 7 | 60 | 50 |
| 10 | 28 | 0 | 4 | 60 | 56 |
| 15 | ♐ 3 | 4 | 49 | 61 | 1 |
| 20 | 8 | 9 | 49 | 61 | 6 |
| 25 | 13 | 15 | 33 | 61 | 11 |
| 30 | 18 | 21 | 32 | 61 | 16 |

*December.*

| | | | | | |
|---|---|---|---|---|---|
| 0 | 18 | 21 | 32 | 61 | 16 |
| 5 | 23 | 27 | 4 | 61 | 18 |
| 10 | 28 | 34 | 18 | 61 | 20 |
| 15 | ♑ 3 | 41 | 16 | 61 | 21 |
| 20 | 8 | 47 | 40 | 61 | 20 |
| 25 | 13 | 44 | 27 | 61 | 18 |
| 30 | 19 | 6 | 26 | 61 | 16 |

## 2. Quomodo locus ſolis ex Ephemeride cognoſcendus.

*Quære in tabella menſem menſiſque diem temporis tui propoſiti, & ibidem invenies locum ſolis aſſcriptum. Si vero dies propoſitus non habeatur in tabula, accipies dierum numerum proxime minorem, & illic locum ſolis excipe, cui toties motum diurnum ibidem in ultima columna aſsignatum ſuperaddes, quot unitatibus propoſitus tuus dierum numerus exceſſerit numerum in tabula repertũ.*

### Exemplum.

[ Lubet ſcire locum ſolis in anno 1606 ad 13 diem Februarii, quæro menſem Februarium in quo 13 diem non reperio, ſed ei proxime minorem nempe 10 diem, eſtque minor tribus diebus. Sol 10 die eſt in 1 51-57 ♓. addo hiſce motum diurnum ter, qui hic aſsignatur 60 17. erit verus ſolis locus ad tempus conſtitutum 1-59 48 ♓. ]

### 3. Cautio prima.

*Sed hic tres cautelæ veneunt obſervandæ. Primum enim non ignorandum, locum ſolis in tabula ſupputatum eſſe ad* 12 *horam meridiei Franequerenſis. Unde ſi ad aliam horam, quam* 12 *meridiei, locum ſolis exacte cognoſcere velis, nec non ad alium quempiam*

*meridianum Franequera quam longiſsime diſtantem. In primis ex catalogo præcipuarum & inſignium civitatum & locorũ (qualem pag. 89 Tom. 1 exhibuimus) differentiam meridianorum in tempora commutatam deſumes, eamque tempori tuo propoſito addes, aut ab eo ſubtrahes, prout tituli ad. & ſub. in catalogo id doceant: iſto enim modo horæ temporis tui propoſitæ erunt ad ephemeridem noſtram reſtitutæ. Porro cum iſtis horis tabellam horariam hic annexam ingredere, quærendo horas iſtas in margine ſiniſtro, & in vertice perquires motum diurnum tempori tuo reſpondentem, in angulo communi ſeſe offert motus ſolis, qui horis a meridie præterlapſis reſpondet: quem addes ad locum ſolis in ephemeride repertum, ut fias voti compos.*

## Exemplum.

[ Lubet ſcire locum ſolis verum ad prædictum 13 Febr. diem quando Calecutii Indiæ eſt hora noctis ſecunda. Conſulo catalogum locorum prædictum, & quæro Calecutium, quod ſi in catalogo iſto non reperiatur, ſumo locum viciniorem, & video differentiam merid. ibidem aſſcriptam 6 hor. cum titulo ad. Vnde conſtat Calecutium orientalius, & tempori propoſito 6 horas addendas eſſe, eritque tunc temporis Franequeræ hora 8 matutina, ſuntque horæ a meridie præterlapſæ 20. Cum hiſce ingredior tabulam horariam hic annexam in

am, in margine ſiniſtro quæro 20 hor. in vertice tabulæ ſumo motum diurnum, qui hic eſt 60 m. 10 ſec. ſed hic ſecunda ſcrupula negliguntur, in communi angulorum concurſu offerunt ſe 50 m. addenda ad locum ſolis 13 Febr. diei per tabulam repertum. Eſtque verus ſolis locus tempore propoſito 4 gr. 43 m. 48 ſec. ♓ ]

*Porro, ut cognoſcas oppoſitum ſolis locum, eoſdem gradus & minuta referes ad oppoſitum ſignum.*

[ Vnde Nadir ſolis eodem tempore erit 4 grad. 43 min. 48 ſec. ♍ ]

## *Tabula motus ſolis Horaria.*

| Horæ | M. | S. | M. | S. | M. | S. | M. | S. | M. | S. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 57 | 0 | 58 | | 59 | | 60 | | 61 | mot⁹ diurn⁹ |
| 1 | 2 | 22 | 2 | 25 | 2 | 27 | 2 | 30 | 2 | 32 | |
| 2 | 4 | 45 | 4 | 50 | 4 | 55 | 5 | 0 | 5 | 5 | |
| 3 | 7 | 7 | 7 | 15 | 7 | 22 | 7 | 30 | 7 | 37 | |
| 4 | 9 | 30 | 9 | 40 | 9 | 50 | 10 | 0 | 10 | 10 | |
| 5 | 11 | 52 | 12 | 5 | 12 | 17 | 12 | 30 | 12 | 42 | |
| 6 | 14 | 15 | 14 | 30 | 14 | 45 | 15 | 0 | 15 | 15 | |
| 7 | 16 | 37 | 16 | 55 | 17 | 12 | 17 | 30 | 17 | 47 | |
| 8 | 19 | 0 | 19 | 20 | 19 | 40 | 20 | 0 | 20 | 20 | |
| 9 | 21 | 22 | 21 | 45 | 22 | 7 | 22 | 30 | 22 | 52 | |
| 10 | 23 | 45 | 24 | 10 | 24 | 35 | 25 | 0 | 25 | 25 | |
| 11 | 26 | 8 | 26 | 35 | 27 | 3 | 27 | 30 | 27 | 57 | |
| 12 | 28 | 30 | 29 | 0 | 29 | 30 | 30 | 0 | 30 | 30 | |

| Horæ | M. | S. | M. | S. | M. | S. | M. | S. | M. | S. |
|---|---|---|---|---|---|---|---|---|---|---|
| mot' u n' | 57 | 0 | 58 | 0 | 59 | | 60 | | 61 | |
| 13 | 30 | 52 | 31 | 25 | 31 | 56 | 32 | 30 | 33 | 3 |
| 14 | 33 | 15 | 33 | 50 | 34 | 25 | 35 | 0 | 35 | 35 |
| 15 | 35 | 37 | 36 | 15 | 36 | 52 | 37 | 30 | 38 | 7 |
| 16 | 38 | 0 | 38 | 40 | 39 | 20 | 40 | 0 | 40 | 40 |
| 17 | 40 | 22 | 41 | 5 | 41 | 47 | 42 | 30 | 43 | 12 |
| 18 | 42 | 45 | 43 | 30 | 44 | 15 | 45 | 0 | 45 | 45 |
| 19 | 45 | 7 | 45 | 55 | 46 | 42 | 47 | 30 | 48 | 17 |
| 20 | 47 | 30 | 48 | 20 | 49 | 10 | 50 | 0 | 50 | 50 |
| 21 | 49 | 52 | 50 | 45 | 51 | 37 | 52 | 30 | 53 | 22 |
| 22 | 52 | 15 | 53 | 15 | 54 | 5 | 55 | 0 | 55 | 55 |
| 23 | 54 | 39 | 55 | 30 | 56 | 32 | 57 | 30 | 58 | 28 |
| 24 | 57 | 0 | 58 | 0 | 59 | 0 | 60 | 0 | 61 | 0 |

4. Cautio ſecunda.

*Secundo loco notandum quod quotannis locus ſolis variet. Sol enim non recurrit ſingulis cujuſvis anni diebus ad eoſdem zodiaci gradus: ſed ſequenti ſemper anno per quartum fere gradus partem differt. Idque propter ſex horas in communi anno neglectas, quibus annus ſolaris (in quo ſol integrum Zodiacum abſolvit) anno communi major eſt. Vnde diligenter anni habenda ratio ad quem locum ſolis quæris, an nimirum ſit biſſextilis, an primus, ſecundus, tertiuſve a biſſexto. Quod hoc modo cognoſces; propoſitum annorum nu-*

*merum*

*merum abjectis prius centenariis & millenariis numeris (qui ſemper biſſexti ſunt) per 4 divide, ex quo ſi nihil reliquum fuerit annus erit biſſextus, ſin unitas vel duo, aut tria ſuperfuerint erit annus primus, ſecundus, tertius, a biſſexto.*

Exemplum.

[ Annus 1599 an ſit biſſextus colligitur ſic, abjectis 1500 partire 99 per 4 exeunt 24 & tria ſuperſunt, quare eſt annus tertius a biſſexto.]

*Porro annus* 1606 *ad quem tabula hæc eſt conſtituta eſt annus ſecundus a biſſexto, itaque tali anno locus ſolis apte reſpondet ſuis diebus, ſed anno a biſſexto tertio a loco ſolis invento auferes quartam gradus partem, ſeu potius motum ſolis 6 horarum: anno vero biſſexto auferes ſemiſſem gradus, ſive motum ſolis 12 horarum, idq; ad Februarii ultimam tantummodo diem uſque. Sed poſt Februarii* 28 *diem ad gradus ſolis inventos adjūges dimidium diei motū ſive ſemiſſem gradus. Primo denique anno a biſſexto addenda ſunt ad gradus loci ſolis in tabula inventos* 15 *minuta, ſeu potius ſolis motus 6 horarū addendus.*

Exemplum anni 1607 qui eſt tertius a biſſexto.

[ Quæritur ſolis locus ad 12 diem Iunii, ex tabula conſtat, quod 10 die Iunii ſol ſit in 28 gr. 42 m. 16 ♊ quibus bis addatur motus diurnus (qui ibidem aſsignatur

57 6)

57 6) erit verus ſolis locus, in prædicti diei meridie, juxta tabul. 0 36 m. 28 ſec ♋, a quibus. quia annus propoſitus eſt tertius a biſſexto, auferantur 14 m. 15 ſec. quæ ſolis motui 6 hor. hic competunt, reſtat pro ſolis loco verificato 0 22 m. 13 ſec. ♋ ]

### 5. Cautio ultima.

*Poſtremo loco animadvertendum, ſi ad præterita & futura tempora hæc curioſe habere velis, pro ſingulis annis hunc* 1606 *conſequentibus* 28 *ſec. ad præſcriptum calculum addenda eſſe, totidemque ab eodem auferenda pro ſingulis annis hunc præcedentibus. Hujus rei cauſa eſt quod ſecundum illud ſpacium annus ſolaris hoc noſtro ſeculo ſit minor quam* 365 *dierum* 6. *hor. quibus annus Iulianus præfinitur. Quare ſubjectam tabellam proponimus, per quam, quod in cognoſcendo vero ſolis loco deeſſe poteſt, facillime pro annis ad* 100 *uſque aut futuris aut præteritis corrigitur.*

Tabella indicans quantum ſingulis annorum ſpaciis, annum 1606 præcedentibus, a præſcripto calculo auferendum: vel eidem pro annis ſubſequentibus addendum: ut reſtituatur ſolis locus in ſeculo præterito aut futuro.

*Anni*

| *Anni* | *Min.* | *Sec.* | *Anni* | *Min.* | *Sec.* |
|---|---|---|---|---|---|
| 1 | 0 | 28 | 20 | 9 | 15 |
| 2 | 0 | 56 | 30 | 13 | 52 |
| 3 | 1 | 23 | 40 | 18 | 30 |
| 4 | 1 | 51 | 50 | 23 | 6 |
| 5 | 2 | 18 | 60 | 27 | 43 |
| 6 | 2 | 46 | 70 | 31 | 20 |
| 7 | 3 | 13 | 80 | 37 | 0 |
| 8 | 3 | 41 | 90 | 41 | 36 |
| 9 | 4 | 9 | 100 | 46 | 12 |
| 10 | 4 | 37 | | | |

Quomodo reliqui Planetæ omneſque ſtellæ fixæ ad eclipticam referantur: & unde earum ſitus reſpectu eclipticæ tam ſecundum longitudinē quam latitudinem ſumendus ſit, docuimus in Tomo 1, cap. 2, libr. 2.

## CAPUT 2.

**Dato & cognito ſolis loco: quomodo ejus ſitus ad æquinoctialem, tam ſecundum meridianum ſive aſcenſionem rectam, quam ſecundum**

ſuam

ſuam declinationem cognoſcatur. Et vice verſa, data & cognita aſcenſione recta, ſive declinatione ſolis, quomodo locus ejus in ecliptica deprehendatur.

*Sol & reliqui planetæ, omneſque ſtellæ fixæ referuntur ad æquinoctialem per circulos meridianos & declinationum parallelos: circulus meridianus ſtellæ exhibet ejus in æquinoctiali diſtantiam ab arietis principio occaſum verſus in eundem terminatam, quæ diſtantia vulgo* Aſcenſio recta *appellatur. Parallelus declinationis indicat et terminat ejuſdem ſtellæ proximam ab æquinoctiali remotionem in meridiano ſtellæ numeratam, quæ vulgo* Declinatio ſtellæ *dicitur, eſtque vel borealis vel auſtralis: Borealis quæ ab æquinoctiali declinat verſus polum arcticum: Auſtralis qui verſus antarcticum. Plura vide ex Tomo* 1 *cap.* 3 *lib.* 2.

Inquiſitio per planiſphærium.

Dato & cognito Solis loco quanta ſit ejus declinatio, quantumq; meridianus ipſius ab Ariet. principio diſtat, hoc modo ex facie planiſphærii omnium facillime cognoſces.

*Quare*

*Quære in ecliptica locum ſolis datum & propoſitum, quo invento interjecti paralleli qui ſunt inter illum & æquinoctialem, oſtendunt declinationem quæſitam. Inſuper meridianus ſive horarius circulus, per eundem eclipticæ gradum ad æquinoctialem ibidem tranſiens, repræſentat meridianum ſolis.*

*Qui quotus ſit ab arietis principio ut cognoſcatur: junges horizontis regulam ad æquinoctialem, & ibidem ex gradibus ſive partibus horizonti inſcriptis voti compos fies, dummodo juſtus numerationis ordo obſervetur, qui hoc modo ſeſe habet. A centro verſus dextram, uſque ad extremum meridianum, numerantur gradus 90 qui correſpondent ſignis Ariet. Taur. Gem. Ab extremo deinde meridiano, ad centrum idem redeundo, ſunt gradus 180 reſpondentes ſignis Canc. Leo, Virg. Rurſus inde continuato ordine uſque ad ſiniſtrum meridianum, ſunt 170 reſpondentes ſignis Libr. Scorp. Sagit. & hinc rurſus verſus centrum numeratio procedit ad 360 gr. uſque qui aſſcripti ſunt ſignis Capricorno Aquar. Piſc.*

Exemplum.

[ Quando Sol eſt ad tertium gr. Leonis conſtitutus quæritur,

ritur. quantum ab æquinoctiali declinat, & quot gradibus meridianus ejus in ipſo æquinoctiali ab arietis principio diſtat. Quære in linea ecliptica 3 ♌ gradum, numera parallelos, qui inter hunc eclipticæ gradum & æquinoctialem interjacent, ſuntque 19½, totidem ergo gradibus declinat Sol ibidem conſtitutus: eſtque declinatio borealis, ſiquidem verſus polum arcticum vergat. Conſequenter, horizontis regula ad æquatorem poſita, obſerva meridianum per eundem ſolis gradum ad æquinoctialem tranſeuntē, qui incidit ad 125⅕ partem ipſius horizontis, & totidem gradibus diſtat meridianus ſolis ab arietis principio, ſuntque gradus aſcenſionis rectę ſolis.]

Eoſdem aſcenſionis rectæ gradus cognoſces ex altera planiſphęrii parte, quę vulgo dorſum appellatur.

*Conſtitue volvellum, ita ut diametri ipſius limbi diametris exacte reſpondeant, & principium arietis in horam ſextam limbi pomeridianum incidat. Perquire in Zodiaco volvelli prædictum tertium gradum Leonis, ei adjunge dioptram, quæ mox in limbi gradibus aſcenſionem rectam quæſitam oſtendet, utpote 125⅕.*

2 Reciprocum hujus doctrinę erit facillimum, namque vice verſa ex cognito meridiano ſive aſcenſione recta ſolis, vel ex data ſolummodo declinatione; locum ſolis ei reſpondentem hoc modo venaberis.

*Stante*

*Stante volvello in ſuo ſitu, ut ſupra diximus, dioptra perducatur in limbo ad gradum aſcenſionis ſolis in eo numeratum & inventum, qui in zodiaco volvelli ibidem gradum loci ſolis monſtrabit. Similiter ut ex facie idem colligas, regula horizontali adjuncta æquatori, inveſtigabis in ejus partibus aſcenſionem rectam propoſitam, idque ſecundum proceſſum numerorum ei inſcriptum; obſervabis ſimiliter meridianum, qui per numeratum aſcenſionis gradum tranſit, hic te deducet ad gradum ecliptica deſideratum.*

*Pari ratione ſi ex declinatione ſolis data idem velis abſolvere, tunc declinationem ſolis datam numera inter parallelos ab æquatore incipiendo, verſus polum vel arcticum vel antarcticum, pro ut declinatio data fuerit vel borealis vel auſtralis. Mox enim parallelus, in quem finit numeratio, ad gradum eclipticæ in quo ſol eſt conſtitutus, te deducet.*

*Cautela.*

Sed hic non ignorandum quod partes eclipticę in planiſphęrio inſcriptę ad bina ſigna referantur, atque utri ſignorum locus ſolis reſpondeat, in prima operatione ex aſc. recta facile ęſtimabis: in po-

ſtrema vero ex incremento & detrimento dierum idem judicabis.

## *Præſentis capitis doctrinam via geometrica per circinum & regulam exequi.*

3 Datur locus ſolis in 3 gr. 8. m. ♌. quęritur declinatio & aſcenſio recta ejus.

*Super centro A deſcribatur peripheria colurum ſolſtitiorum referens, perque idem centrum A trahatur recta Æ Q, quæ ſit dimetiens æquinoctialis, a qua duo arcus ÆE & Q C obliquitatis Zodiaci utpote 23½ in coluro ſumantur, ut in lemmate docuimus pag. 23. Tom. 2. Vnde recta EC referet eclipticam, in qua ad centrum erit principium Ariet. & Libr. ad E erit Capric. & ad C habebis Canc. principium. Recta V N ſit axis æquinoctialis, & D G axis eclipticæ. His ita conſtitutis, numeretur in coluro diſtantia ſolis in ecliptica a proximo æquinoctio ſumpta, idq; a polo zodiaci boreo D, quando eſt in ſignis borealibus. Quando vero eſt in ſignis auſtralibus, numera-*

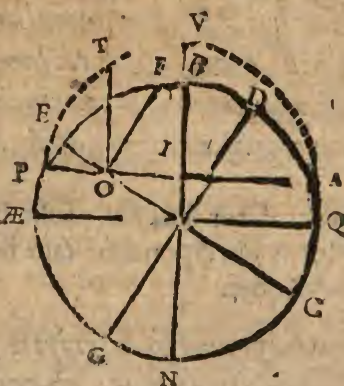
*merabitur a polo auſtrino N. (Quomodo illa numeratio inſtituenda, docuimus in lemmate pag. 23. tom. 1.) In 3 gr. Leon. exiſtit diſtantia illa 57 a Libr. verſus ♋. Vnde hæc numerabitur a D uſque ad F, ex quo ad F C perpendicularis dimittatur F O. Deniq; per O tranſeat recta P A æquatoris dimetiente parallela, quæ referet parallelum declinationis ſolis exiſtentis in 3 gr. Leon. Proinde arcus coluri Q A & Æ P declinationem ſolis quæſitam continebunt, quorum amplitudinem ex prædicto lemmate cognoſces.*

*Porro ex centro I, ſuper dimetiente P A, conſtituatur ſemiperipheria P V A, ad quam ex O excitetur ipſi P A perpendicularis O T, unde arcus V T aſcenſionem rectam a proximo æquinoctio numeratam continebit: cujus quantitatem cognoſces ex prædicto lemmate.*

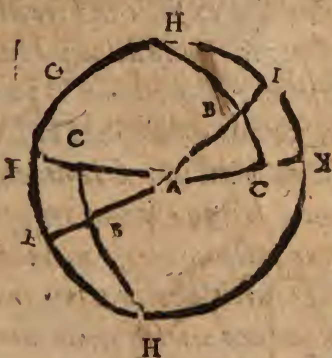
4 Reciproce detur declinatio ſolis Bor. Quæratur locus ei reſpondens tam in Zodiaco quam AEquat.

*In ſchemate præmiſſo deſcriptis æquatore & Zodiaco cum ſuis axibus: ab æquatoris linea Æ Q ſumantur in coluro duo arcus*

*declinationis ſolis Q A & ÆP verſus quidem polum boreum B ſi declinatio aetur borealis: ſin auſtralis, in contrariam partem. Trahaturque recta P A parallelum declinationis deſignans, quæ ſecabit zodiacum ad locum ſolis O: ex quo excitur perpendicularis OF, unde arcus coluri DF diſtantiam ſolis a proximo æquinoctio verſus Canc. deſignabit, eſtque 57 gr. Vnde locus ſolis aut in 27 Libr. aut 3 Leon. exſiſtit. Rurſus ex eodem O excitur perpendicularis OT ſecans ſemiperipheriam ad P A deſcriptam in punctum T, proinde VT erit aſcenſio recta ſolis ab eodem æquinoctii puncto numerata.*



HVIVS CAPITIS DOctrinam ratiocinio Triangulorum Sphæricorum perficere, & obiter de conſtructione tabularum aſcenſionum rectarum, nec non & declinationum ſingularum eclipticæ partium.




*Si ad triangula ſphærica te convertas propoſiti capitis doctrinā pluribus modis tum per planiſphærium noſtrū, tum vel maxime per canonem et calculum triangulorū ſphæricorum exequeris, quemadmodum figura adjecta id oculis ſubjicit, in qua,*

*Peripheria EGKH tranſiens per mundi polos ſimul & zodiaci, repræſentat colurum ſolſtitiorum.*

*Semicirculus FAK ſit medietas æquinoctialis ex mundi polo H deſcripta: & EAI*



BIBLIOTECA NAZ. ROMA VITTORIO EMANUELE

*medietas eclipticæ ex Zodiaci polo G delineata.*

*Punctum interſectionis eclipticæ & æquinoctialis A utrumq; æquinoctium tam vernale quam autumnale referet.*

*Principium ſolſtitii æſtivi ſive Cancri ſit in I, erit hyemalis ſive Capric. initium ad E.*

*Locus ſolis propoſitus, cujus nempe declinationem & aſcenſionem rectam ſcire intendimus, aſſumatur in ecliptica ad punctum B verſus Canc. quando Sol exſiſtit in borealibus ſignis, verſus Capric. quando nimirum eſt in ſignis auſtralibus, & per idem B punctum deſcendat quadrans meridiani HBC, qui in æquinoctiali ad punctum C indicabit aſcenſionem rectam ſolis quæſitam: inſuper ipſius arcus BC inter eclipticam & meridianum interjectus menſurat declinationem ejuſdem. Quæ utraque hoc ut ſequitur modo enucleantur.*

*Quia in ecliptica EAI cognitus eſt ex theſi locus ſolis ad punctum B, unde ipſius diſtantia a proximo æquinoctio ſive vernali ſive autumnali non ignorabitur, quem exhibet arcus eclipticæ AB.*

[ Verbi gratia, ſol ſit conſtitutus in ſignis borealibus ad 5 grad. ♌. erit diſtantia ejus ab æquinoctio autumnali ſive

ſive ♎ principio, utpote arcus AB grad. 57, tantundem diſtabit ab eodem æquinoctii puncto cum eſt conſtitutus in ſignis auſtralibus ad 27 gr. ♏. Porro angulus maximæ declinationis ſolis, quem ecliptica cum æquinoctiali efficit ad punctum æquinoctiorum A, juxta accuratam Tychonis obſervationem, hoc noſtro ſeculo, eſt 23 31½, Hinc in triang. ABC rectang. ad C per 10 probl. 1 part. trigon.

Dantur ex theſi { Baſis ang. recti AB 57 gr. 0 m., Angulus inclinationis eclipt. BAC 23 grad. 31½. }

Quæruntur { Crus, BC, menſurans declinat. Solis, Crus, AC, continens diſtantiam meridiani ſolis ab æquinoctio autumn. Qua data aſc. recta ab Ariet. latere non poterit. }

## Illuſtratio per numeros.

In triangulo ſphærico rectangulo ABC per 1 Problem. erit.

| | | | | | | |
|---|---|---|---|---|---|---|
| VT radius, | AD | ſinum baſis AB | ITA | ſinus ang. A | AD | ſinum crur. BC angulo dat. oppoſ. |
| 100000 | | 83867 | | 39913 | | 33473. |

Atque ſinui 33473 reſpondet arcus 19 33⅓ fere, unde totidem gradus erit declinatio ſolis exiſtentis ad 3 ♌ vel 27 ♏, & hic quidem auſtralis, illic vero borealis.

Rurſus in eadem ABC triangulo erit per 2 probl.

| | | | | | | |
|---|---|---|---|---|---|---|
| VT radius | AD | tang. baſis AB | ITA | ſinus compl. ang. A | AD | tang crur. AC dato ang. adjac. |
| 100000 | | 153987 | | 91688. | | 141187. |

Atque tangenti 141187 reſpondet arcus 34 41½ fere, unde & totidem gr. diſtat meridianus ſolis in æquatore a ♎ principio, & id quidem contra ſignorum ſeriem, ſole exiſtente in 3 gradu ♌, quare ut ejuſdem diſtantiam cognoſcas ab ♈, juxta ſignorum ſeriem, quatenus nempe aſcenſiones numerantur. Auferes in hoc

exemplo arcum inventum a ſemicirculo, hoc eſt 54 41½ ſubtrahe a 180, reſtat aſcenſio recta ſolis quæſita 125 18½. Cæterum ſole exiſtente in 25 ♏, ejus meridianus totidem grad. habebit a ♎ juxta ſignorum ſeriem, & propterea arcus repertus addendus eſt ſemicirculo, ut prodat aſcenſio recta quæſita 234 41½.]

## Corollarium.

*Ex hiſce patet quo artificio aſtronomi tabulas aſcenſionum rectarum, nec non & declinationum ſingularum eclipticæ partium conſtruxerint, quarum uſus in rebus aſtronomicis eſt frequentiſsimus, pro iis tamen condendis hoc obſervatu digniſsimum. Quod partes eclipticæ a punctis æquinoctialibus æqualiter remotæ, æquales quoque ſortiantur meridianorum diſtantias, nec non & declinationes eaſdem. Unde pro tabularum iſtarum conſtructione ſufficiet calculus unius eclipticæ quadrantis.*

6 Reciprocum hujus doctrinę ex ejuſdem trianguli ratiocinio manifeſtum erit.

[ In triangulo enim ABC prædicto.

Dentur ex theſi { Angulus eclipt. & æquinoct. BAC 23 31½. Crus declinationis ſolis BC 19 33⅓.

Iuveſtigabitur per 8 probl. { Baſis AB menſurans diſtantiam ſolis in eclip. ab alterutro & ſibi proximo æquin.

Namque per citatum 8 Problema, erit.

VT

| VT Radius | AD ſecant. compl. ang. A | ITA ſinus cruris BC | AD ſinum baſis BA |
|---|---|---|---|
| 100000 | 150533 | 33473 | 83861 |

Atque ſinui 83861 reſpondet arcus 57 fere, pro diſtantia ſolis in ecliptica ab æquinoctio ſibi proximo quam quærebamus.]

*Ad eundem modum ſi detur aſcenſio recta ſolis, ſive diſtantia meridiani ſolis a proximo ſibi æquinoctio in gradibus æquinoctialis,*

[ Quam in ſchemate premiſſo menſurat crus AC trianguli BAC eſtq; in noſtro exemplo 54 gr. 41½.]

*Locus ſolis in ecliptica non ignorabitur. Erit enim juxta 7. probl.*

| VT Radius | AD ſin.cōp. ang. A | ITA tang.cōp. crur. AC | AD tang,cōp. baſis AB |
|---|---|---|---|
| 100000 | 91658 | 70827 | 64940 |

Atque huic tang. 64940 reſpondet arcus complementum 57 fere, quantum nimirum ſol diſtat a proximo æquinoctio ſecundum gradus eclipticæ.]

## DOCTRINAM HVIVS capitis ex tabulis declinationum & aſc. rectarum faciliori calculo excerpere.

*Juxta præceptum in corollario hujus expoſitum ſubſequentes duas tabellas ſupputavimus earumque uſum ſubjecimus.*

Tabula declinat. Singulorum Eclipticæ graduum.

GRADVS SVPERIORVM SEX SIGNORVM

| | ♈ | | ♎ | ♉ | | ♏ | ♊ | | ♐ | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Gr. | M. | ſec. | Gr. | M. | ſec. | Gr. | M. | ſec. | |
| 0 | 0 | 0 | 0 | 11 | 30 | 42 | 20 | 13 | 22 | 30 |
| 1 | 0 | 23 | 56 | 11 | 51 | 48 | 20 | 21 | 57 | 29 |
| 2 | 0 | 47 | 53 | 12 | 12 | 40 | 20 | 38 | 9 | 28 |
| 3 | 1 | 11 | 49 | 12 | 33 | 21 | 20 | 50 | 0 | 27 |
| 4 | 1 | 35 | 43 | 12 | 53 | 49 | 21 | 1 | 25 | 26 |
| 5 | 1 | 59 | 37 | 13 | 14 | 5 | 21 | 12 | 29 | 25 |
| 6 | 2 | 23 | 28 | 13 | 34 | 7 | 21 | 23 | 7 | 24 |
| 7 | 2 | 47 | 16 | 13 | 53 | 57 | 21 | 33 | 22 | 23 |
| 8 | 3 | 11 | 4 | 14 | 13 | 32 | 21 | 43 | 15 | 22 |
| 9 | 3 | 34 | 47 | 14 | 32 | 55 | 21 | 52 | 42 | 21 |
| 10 | 3 | 58 | 28 | 14 | 52 | 0 | 21 | 1 | 45 | 20 |
| 11 | 4 | 22 | 4 | 15 | 10 | 50 | 22 | 10 | 22 | 19 |
| 12 | 4 | 45 | 37 | 15 | 29 | 26 | 22 | 18 | 35 | 18 |
| 13 | 5 | 9 | 5 | 15 | 47 | 47 | 22 | 26 | 22 | 17 |
| 14 | 5 | 32 | 29 | 16 | 5 | 51 | 22 | 33 | 44 | 16 |
| 15 | 5 | 55 | 47 | 16 | 23 | 39 | 22 | 40 | 39 | 15 |
| 16 | 6 | 18 | 58 | 16 | 41 | 9 | 22 | 47 | 10 | 14 |
| 17 | 6 | 42 | 6 | 16 | 58 | 22 | 22 | 53 | 13 | 13 |
| 18 | 7 | 5 | 6 | 17 | 15 | 18 | 22 | 58 | 51 | 12 |
| 19 | 7 | 28 | 0 | 17 | 31 | 54 | 22 | 4 | 3 | 11 |
| 20 | 7 | 50 | 46 | 17 | 48 | 14 | 23 | 8 | 47 | 10 |
| 21 | 8 | 13 | 26 | 18 | 4 | 14 | 23 | 13 | 5 | 9 |
| 22 | 8 | 35 | 58 | 18 | 19 | 57 | 23 | 16 | 56 | 8 |
| 23 | 8 | 58 | 20 | 18 | 35 | 18 | 23 | 20 | 20 | 7 |
| 24 | 9 | 20 | 24 | 18 | 50 | 21 | 23 | 23 | 18 | 6 |
| 25 | 9 | 42 | 41 | 19 | 5 | 4 | 23 | 25 | 45 | 5 |
| 26 | 10 | 4 | 38 | 19 | 19 | 26 | 23 | 27 | 51 | 4 |
| 27 | 10 | 26 | 24 | 19 | 33 | 27 | 23 | 29 | 27 | 3 |
| 28 | 10 | 48 | 2 | 19 | 47 | 7 | 23 | 30 | 35 | 2 |
| 29 | 11 | 9 | 27 | 20 | 0 | 26 | 23 | 31 | 17 | 1 |
| 30 | 11 | 30 | 42 | 20 | 13 | 22 | 23 | 31 | 30 | 0 |
| | ♓ | | ♍ | ♒ | | ♌ | ♑ | | ♋ | |

GRADVS INFERIORVM SEX SIGNORVM.

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G. | M. | G. | M. | G. | M. | G. | M. | G. | M. | G. | M. |
| 0 | 0 | 0 | 27 | 54 | 57 | 48 | 90 | 0 | 122 | 12 | 152 | 6 |
| 1 | 0 | 55 | 28 | 51 | 58 | 51 | 91 | 5 | 123 | 14 | 153 | 4 |
| 2 | 1 | 50 | 29 | 48 | 59 | 53 | 92 | 11 | 124 | 16 | 154 | 1 |
| 3 | 2 | 45 | 30 | 46 | 60 | 56 | 93 | 16 | 125 | 19 | 154 | 58 |
| 4 | 3 | 40 | 31 | 44 | 61 | 59 | 94 | 22 | 126 | 20 | 155 | 54 |
| 5 | 4 | 35 | 32 | 42 | 63 | 2 | 95 | 27 | 127 | 22 | 156 | 51 |
| 6 | 5 | 30 | 33 | 40 | 64 | 6 | 96 | 32 | 128 | 24 | 157 | 48 |
| 7 | 6 | 25 | 34 | 38 | 65 | 9 | 97 | 38 | 129 | 25 | 158 | 44 |
| 8 | 7 | 21 | 35 | 37 | 66 | 13 | 98 | 43 | 130 | 26 | 159 | 40 |
| 9 | 8 | 16 | 36 | 36 | 67 | 17 | 99 | 48 | 131 | 27 | 160 | 37 |
| 10 | 9 | 11 | 37 | 34 | 68 | 21 | 100 | 53 | 132 | 28 | 161 | 33 |
| 11 | 10 | 6 | 38 | 33 | 69 | 25 | 101 | 58 | 133 | 28 | 162 | 29 |
| 12 | 11 | 2 | 39 | 32 | 70 | 29 | 103 | 3 | 134 | 29 | 163 | 25 |
| 13 | 11 | 57 | 40 | 32 | 71 | 34 | 104 | 8 | 135 | 29 | 164 | 20 |
| 14 | 12 | 53 | 41 | 31 | 72 | 38 | 105 | 13 | 136 | 29 | 165 | 16 |
| 15 | 13 | 48 | 42 | 31 | 73 | 43 | 106 | 17 | 137 | 29 | 166 | 12 |
| 16 | 14 | 44 | 43 | 31 | 74 | 47 | 107 | 22 | 138 | 29 | 167 | 7 |
| 17 | 15 | 39 | 44 | 31 | 75 | 52 | 108 | 26 | 139 | 28 | 168 | 3 |
| 18 | 16 | 35 | 45 | 31 | 76 | 57 | 109 | 31 | 140 | 27 | 168 | 58 |
| 19 | 17 | 31 | 46 | 31 | 78 | 2 | 110 | 35 | 141 | 26 | 169 | 54 |
| 20 | 18 | 27 | 47 | 32 | 79 | 7 | 111 | 39 | 142 | 26 | 170 | 49 |
| 21 | 19 | 23 | 48 | 33 | 80 | 12 | 112 | 43 | 143 | 24 | 171 | 44 |
| 22 | 20 | 20 | 49 | 34 | 81 | 17 | 113 | 47 | 144 | 23 | 172 | 39 |
| 23 | 21 | 16 | 50 | 35 | 82 | 22 | 114 | 51 | 145 | 22 | 173 | 35 |
| 24 | 22 | 12 | 51 | 36 | 83 | 28 | 115 | 54 | 146 | 26 | 174 | 30 |
| 25 | 23 | 9 | 52 | 38 | 84 | 33 | 116 | 57 | 147 | 18 | 175 | 25 |
| 26 | 24 | 6 | 53 | 39 | 85 | 38 | 118 | 1 | 148 | 16 | 176 | 20 |
| 27 | 25 | 2 | 54 | 41 | 86 | 44 | 119 | 4 | 149 | 14 | 177 | 15 |
| 28 | 25 | 59 | 55 | 44 | 87 | 49 | 120 | 7 | 150 | 11 | 178 | 10 |
| 29 | 16 | 56 | 56 | 46 | 88 | 55 | 121 | 9 | 151 | 9 | 179 | 5 |
| 30 | 27 | 54 | 57 | 48 | 90 | 0 | 122 | 12 | 152 | 6 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | M | G | M | G | M | G | M | G | M | G | M |
| 0 | 180 | 0 | 207 | 54 | 237 | 48 | 270 | 0 | 302 | 12 | 332 | 6 |
| 1 | 180 | 55 | 208 | 51 | 238 | 51 | 271 | 5 | 303 | 14 | 333 | 4 |
| 2 | 181 | 50 | 209 | 49 | 239 | 53 | 272 | 11 | 304 | 16 | 334 | 1 |
| 3 | 182 | 45 | 210 | 46 | 240 | 56 | 273 | 16 | 305 | 19 | 334 | 58 |
| 4 | 183 | 40 | 211 | 44 | 241 | 59 | 274 | 22 | 306 | 20 | 335 | 54 |
| 5 | 184 | 35 | 212 | 42 | 243 | 3 | 275 | 27 | 307 | 22 | 336 | 51 |
| 6 | 185 | 30 | 213 | 40 | 244 | 6 | 276 | 32 | 308 | 24 | 337 | 48 |
| 7 | 186 | 25 | 214 | 38 | 245 | 9 | 277 | 38 | 309 | 25 | 338 | 44 |
| 8 | 187 | 20 | 215 | 37 | 246 | 13 | 278 | 43 | 310 | 26 | 339 | 40 |
| 9 | 188 | 16 | 216 | 36 | 247 | 17 | 279 | 48 | 311 | 27 | 340 | 37 |
| 10 | 189 | 11 | 217 | 34 | 248 | 21 | 280 | 53 | 312 | 28 | 341 | 33 |
| 11 | 190 | 6 | 218 | 33 | 249 | 25 | 281 | 58 | 313 | 28 | 342 | 29 |
| 12 | 191 | 2 | 219 | 33 | 250 | 29 | 283 | 3 | 314 | 29 | 343 | 25 |
| 13 | 191 | 57 | 220 | 32 | 251 | 34 | 284 | 8 | 315 | 29 | 344 | 20 |
| 14 | 192 | 53 | 221 | 31 | 252 | 38 | 285 | 13 | 316 | 29 | 345 | 16 |
| 15 | 193 | 48 | 22 | 31 | 253 | 43 | 286 | 17 | 317 | 29 | 346 | 12 |
| 16 | 194 | 44 | 23 | 31 | 254 | 47 | 287 | 22 | 318 | 29 | 347 | 7 |
| 17 | 195 | 40 | 224 | 31 | 255 | 52 | 288 | 26 | 319 | 28 | 348 | 3 |
| 18 | 196 | 35 | 225 | 31 | 256 | 57 | 289 | 31 | 320 | 27 | 248 | 58 |
| 19 | 197 | 31 | 226 | 32 | 258 | 2 | 290 | 35 | 321 | 27 | 349 | 54 |
| 20 | 198 | 27 | 227 | 32 | 259 | 7 | 291 | 39 | 322 | 26 | 350 | 49 |
| 21 | 199 | 23 | 228 | 33 | 260 | 12 | 292 | 43 | 323 | 24 | 351 | 44 |
| 22 | 200 | 20 | 229 | 34 | 261 | 17 | 293 | 47 | 324 | 23 | 352 | 39 |
| 23 | 201 | 16 | 230 | 35 | 262 | 22 | 294 | 51 | 325 | 21 | 353 | 35 |
| 24 | 202 | 12 | 231 | 36 | 263 | 28 | 295 | 54 | 326 | 20 | 354 | 30 |
| 25 | 203 | 9 | 232 | 38 | 264 | 33 | 296 | 57 | 327 | 18 | 355 | 25 |
| 26 | 204 | 6 | 233 | 40 | 265 | 38 | 298 | 1 | 328 | 16 | 356 | 20 |
| 27 | 205 | 2 | 234 | 41 | 266 | 44 | 299 | 4 | 329 | 14 | 357 | 15 |
| 28 | 205 | 59 | 235 | 44 | 267 | 49 | 300 | 7 | 330 | 11 | 358 | 10 |
| 29 | 206 | 56 | 236 | 46 | 208 | 55 | 301 | 9 | 331 | 9 | 359 | 5 |
| 30 | 207 | 54 | 237 | 48 | 270 | 0 | 302 | 12 | 332 | 6 | 360 | 0 |

# VSVS TABVLAE DECLINATIONUM.

7 Dato ſolis loco, ſive gradu alicujus eclipticę: ejus declinationem ex tabula eruere.

*Propoſitum hoc exequeris per lateralem tabulæ ingreſſum. ſignũ enim loci ſolis reperies vel ad ſuperiorem, vel inferiorem tabulæ partem, hinc & gradum ſolis, vel ex dextro vel ſiniſtro latere deſumes juxta hanc nimirum legem. Si ſignum loci ſolis in ſuperiori tabulæ parte repertum fuerit, accipiendi ſunt gradus ſolis in ſiniſtra tabulæ parte: ſi vero in linea tabulæ inferiori ſignum fuerit repoſitum, in dextra parte erunt gradus ſumendi: & ilico in area tabulæ, ad communem concurſum ſigni & gradus accepti, offendentur gradus & minuta declinationis quæſitæ.*

Exemplum.

[ Quæritur declinatio ſolis quando eſt in 3 gr. ♌. quia ſignum hoc collocatum eſt in inferiori parte tabellæ, accipies igitur gradum 3 ♌ in dextro margine, & in communi angulo ſub Leon. reperies gr. 19 33 m, 27 ſec. pro declinatione quæſita.]

*Quod ſi gradibus loci ſolis minuta fuerint annexa, cognoſces eandem declinationem per partem proportionalem hoc modo.*

[ Quæ-

[ Quæratur declinatio ſolis quando eſt in 10 gr. 20 m. ♉, declinatio 10 gr. ♉ eſt 14 gr. 51 m. 0 ſec. ſed declinatio 11 gr. ♉ eſt 15 gr. 10. m. 50 ſec. ut differentia utriuſq; harum declinationum ſit 0 gr. 19 m. 50 ſec. conveniens uni gradui declinationis utpote inter 10 & 11. Iam ut veneris partem proportionalem congruentem 20 m. adjacentibus ſic collocato in regula proportionum. Minuta 60 ſive gradus 1 dant 19 m. 50 ſec. quot dant 20 m. Ex operatione regulæ proportionum colliges 6 m. 37 ſec. Hæc eſt pars proportionalis addenda ad declinationē 10 gr. ♉ eo quod declinatio ad ſequentem gradum 11 accreſcit. Namque ſi decreſceret declinatio ad ſequentem gr. quod fit quando ſignum in inferiori tabulæ parte reperitur, eadem pars congrua auferenda eſſet. Itaque juſta & emendata declinatio congruens 10 gr. 20 m ♉ exſiſtit 14 gr. 57 m. 37. ſec.

*Atque hæc doctrina de elicienda parte proportionali, hoc loco ita tradita, in poſterum ſufficiat. vice verſa.*

8 Data declinatione ſolis, locum ei correſpondentem per tabulam inquirere.

*Inquiſitio hujus fit per arealem tabulæ ingreſſum, quia numerus graduū datus ſumitur in area tabulæ, ita ut quæſitum inveniendum ſit extra in margine.*

[ Verbi gratia detur declinatio ſolis 22 gr. 10 m. 22 ſec. & inveniendus ſit grad. ſigni huic declinationi reſpondens: Quæres gradus & minuta declinationum inter areales tabulę numeros, & cognoſces declinationi 22 gr. 10 m. 22 ſec. reſpondere in margine quidem ſiniſtro grad. 11 ſignorum ♊ & ♐, nec non in dextro margine reſpondent eidem declinationi 19 gr. ſig. ♑ & ♋

utrum

utrum igitur horum ſignorum ſol occupet, ex ratione temporis æſtimabis.]

*Quod ſi numerus declinationis ſolis propoſitus in area tabulæ præciſe non reperiatur, adhibenda eſt pars proportionalis, ut ſequitur in exemplo.*

[ Datur declinatio ſolis 3 grad. 19 m. 16 ſec. quæritur gradus & ſignum zodiaci huic correſpondens, tabula quidem in area ſua non exhibet penitus numerum hunc declinationis, ſed proxime minorem quidem 3 gr. 11 m. 4 ſec. & majorem 3 gr. 34 m. 47 ſec. ut ſit horum circumjacentium arcuum differentia 23 m. 43 ſec. & data noſtra declinatio excedit minorem horum arealium numerorum 8 m. 12 ſec. Quare ut partem proportionalem veneris, ſic argumentaberis, 23 m. 43″ dant. 1 gr. Quid dabunt 8 m. 12 ſec. ſi non logiſtice ſed vulgari modo operationem inſtituere mavis, redigantur numeri ad eoſdem terminos. Stabit regula ſic 1423 ſec. dant 3600 ſec. quid dabunt 492 ſec. facta deinde operatione invenies 1244 ſec. ſive 20 m. 44 ſec.

Porro quia 3 gr. 11 m. 4 ſec. reſpondet in tabula 8 gr. ♈ & ♎. Sed declinationi 3 gr. 34 m. 47 ſec. reſpondet 9. gr. eorundem ſignorum, pronuntiandum propoſitæ declinationi 3. gr. 19 m. 16 ſec. reſpondere 8 gr. 20 m. 44 ſec. ♈ & ♎ ſignorum, ſive 21 gr. 40 m. 16 ſec. ſignorum ♓ & ♍.]

*Atque hoc quoque exemplum arealis tabulæ ingreſſus in poſterum ſufficiat, in quo tamen ſi ſcrupula ſecunda negligantur, multo expeditior fiet operatio, ut in ſequenti tabula aſc. rectæ.*

VSVS

# VSVS TABVLAE ASC. RECTAE.

9 Dato ſolis loco vel gradu cujuſvis eclipticę, ejuſdem aſcentionem rectam ex tabula rimari.

*Intrabis tabulam lateraliter, accipiendo in capite tabulæ ſignum, & in latere ſiniſtro gradum ſigni: namque in area tabulæ ad communem concurſum ſigni & gradus propoſiti reperientur gradus & minuata aſc. rectæ quæſitæ.*

[Sic cognoſces aſc. rectam 3 gr. ♌. eſſe 125 gr. 18½'.]

*Quod ſi gradui eclipticæ dato adhæreant minuta, pars proportionalis oblatis minutis reſpondens elicienda erit, ut dictum in uſu tabulæ declinationum, eaque adjicienda aſcenſioni arcus integrorum graduum proxime minoris.*

Exemplum. Quæratur aſc. recta 20 gr. 15 m. ♍ ſc. 20 gr. ♍ eſt 170 gr. 49 ſed aſcenſio recta 21 gr. ♍ eſt 171 44 differentia utriuſque eſt 55 m. quæ debentur uni gradui aſcenſionis, quare ſecundum regulam proportionis 15 minutis debenutr, 14 m. fere quæ ſi adjiciantur aſcenſioni gradus 20 gr. ♍ habebitur aſc. recta quæſita 170 gr. 3 m.]

10 Reciproce data aſcenſione recta gradum eclipticę reſpondentem colligere.

*Intrabis*

*Intrabis tabulam arealiter, quærendo in ea numerum aſc. rectæ propoſitum, ilico enim in margine ſiniſtro offeret ſeſe gradus eclipticæ aſc. rectæ conveniens, & ex capite tabulæ erues ſignum.*

[ Sic aſc. rectæ 193 gr. 48 m. in area tabulæ repertæ, reſpondet in ſiniſtro margine 15 grad. ſigni Libræ in vertice tabulæ poſiti.]

*Quod ſi numerus aſc. rectæ in area non reperiatur, ſumenda eſt pars proportionalis ut in tabula decl. docuimus.*

[ Verbi gratia quæritur gradus eclipticæ reſpondens aſc. rectæ 235 gr. 20 m. in tabula numerus talis non reperitur ſed proxime minor 234 gr. 41 m. & proxime major 235 gr. 43 m. & differentia utriuſque eſt 1 gr. 2 m. ſive 62 m. quæ reſpondent uni gradui iſtorum arcuum, & data aſc. recta excedit minorem horum arealium numerorum 39 m. quibus per regulam proportionum debentur 40 m. fere, & quia aſc. rectæ 234 gr. 41 min. reſpondet in tabula 27 gr. Scorp. Concludes ergo ex hoc calculo aſc. rectæ propoſitæ 235 gr. 20 m. reſpondere 27 gr. 40 Scorp.]

## CAPUT 3.

## Situ ſtellarum fixarum reliquorumq; planetarum ad eclipticam ſecundú longitudinem & latitudinem dato, earum ſitum ad æquinoctialē,

tam ſecundum meridianũ quam declinationis parallelum indagare, hoc eſt earum ASCENSIONEM RECTAM & DECLINATIONEM cognoſcere: vice verſa cognita aſcenſione recta cum declinatione, earum longitudinem & latitudinem perquirere.

Nec non & permutando, data declinatione cum latitudine, aſcenſionẽ rectam, & longitudinem colligere.

*In libris aſtronomicis extant canones de longitudinibus & latitudinibus omnium ſtellarum ab aſtronomis obſervatarum: qui quidem canones juxta motum ſphæræ octavæ facile ad omnia ſæcula reſtituuntur. Motus enim iſte polos eclipticæ non æquatoris reſpicit, hinc fit ut ſtellæ fixæ, quoad ſe invicem, impermutabiles ſint, eandemque longitudinis differentiam perpetuo obtineant, nec latitudinem etiam mutent, niſi ratione alteratæ obliqui-*

*obliquitatis ecliptica, quod tamen non adeo magnum aut cito perceptibile diſcrimen ingerit. Declinationes vero ſtellarum ſenſibiliter aliis atque aliis annis mutantur, nec etiam ipſæ differentiæ aſcenſionales perpetuo eædem prorſus permanent. Idcirco fit ut tabulæ de aſcenſionibus rectis & declinationibus perennes dari non poſsint, ſed eædem ex longitudinibus & latitudinibus ad tempus propoſitum reſtitutis cognoſcuntur, earundemque inquiſitionem hic proponimus, & primo quidem per aſtrolabium in hunc modum.*

## I. INQVISITIO PER ASTROLABIUM.

*In planiſphærio propones tibi parallelum rectum tanquam Zodiacum, ſic enim circuli in polos ducti longitudinum circulos, & paralleli latitudinum parallelos repreſentant: deinde regulam horizontalem adjunges parallelo recto, ita tamen, ut latus reſpiciat polum arcticum, ſi quando ſtella propoſita cujus nempe aſcenſionem rectam & declinationem ſcire intendimus, habuerit latitudinem borealem. Contra idem latus obvertatur ver-*

*ſus antarcticum polum ſi quando habet latitudinem auſtralem: poſtea juxta ſeriem ſignorum graduumque inter partes regulæ longitudinem ſtellæ perquirito, qua inventa, notabis diligenter circulum ex polis ibidē tranſeuntem, atque in illo per parallelos ipſum ſecantes numerato verſus polum extantem latitudinem ſtellæ, & fini numerationis communique circulorum interſectioni indicem adaptato, tandem in gradibus limbi ad dextram tui partem idque verſus polum arcticum, vel ad ſiniſtram tui partem verſus antarcticum polum, numerato angulum quem ecliptica efficit cum æquatore, quæ hoc noſtro ſeculo eſt 23 ½ & eo transferatur regula horizontalis: iſto enim modo apex indicis inter parallelos ab æquatore numerando declinationem ſtellæ commonſtrabit. Et meridianus, quem index deſignat, oſtendit aſcenſionem rectam ſtellæ quæſitam, dummodo reducto horizonte ad parallelum rectum obſervaveris in quotam ipſius partem ab Ariete, juxta ſeriem ſignorum numeratam is ipſe inciderit.*

Declaratio per exemplum.

¶ Stella lucida oculi tauri Aldebaran dicta hoc tempore ſecundum longitudinem eſt in 4 gr. 18' Gemin. latitudo

eſt

eſt 5 gr. 31 m. auſtralis, quæritur aſcenſio recta & declinatio ejuſdem, quia latitudo ſtellæ data eſt auſtralis, adjungo regulam horizontalem parallelo recto, ſic ut reſpiciat polum antarcticum, deinde in ejus partibus quæro 4⅓ Gemin. utpote longitudinem ſtellæ, & circulum ex polis iſtic tranſeuntem noto, in quo inter parallelos verſus antarcticum polum numero latitudinem datam 5½, & ibidem ad communem circulorum interſectionem apicem ſtyli adjungo. Poſtea in gradibus limbi dextri ab æquatore incipiendo verſus polum arcticum, ſupputo obliquitatem eclipticæ utpote 23½, atque eo transfero regulam, & mox inter parallelos, ab æquatore numerando, apex indicis oſtendet declinationem quæſitam 15⅔ fere borealem: & conſequenter obſerva meridianum quem idem index demonſtrat, namque reducta regula ad ſitum priorem paralleli recti, meridianus iſte incidet in 63¼ ipſius regulæ partem ab ariete numeratam, & totidem eſt aſcenſio recta ejuſdem ſtellæ ab ariete.

## Aliud exemplum in arcturi ſtella.

Cujus latitudo datur borealis 31 grad. 3 m. & longitudo 18 gr. 45 Libr. Quia latitudo data eſt borealis, adaptabitur regula parallelo recto, ut reſpiciat polum arcticum, in qua quæratur 18¾ Libr. longitudo nempe ſtellæ, conſequenter in circulo longitudinis ibidem tranſeunte numeretur per parallelos, incipiendo a recto, latitudo data 31 gr. cui applicetur index, tandem ad dextram partem limbi verſus polum arcticum ſupputetur eclipticæ obliquitas 23½, ad quam transferatur regula, mox index inter parallelos oſtendet declinationem arcturi 21¾ ab æquatore numeratam, & meridianus ejuſdem indicis tranſit per 209½ partem regulæ ad ſitum priorem paralleli recti reſtitutæ, & totidem eſt aſcenſio recta arcturi ab ariete juxta ſignorum ſeriem numerata.]

2 Reciprocum hujus contrario operandi modo conſequeris, habetque ſuum uſum in altera aſtronomiæ parte quam obſervatricem appellavimus.

*Verbi gratia.*

Sit data per obſervationem vel aliunde declinatio arcturi $21\frac{1}{4}$ Bor. cum aſc. recta ejuſdem $209\frac{1}{2}$.
Quæratur ejus tum *longitudo* tum *latitudo*.

*Adjunges regulam horizontalem parallelo recto tanquam æquatori verſus polum boreum quidem propter declinationem datam borealem, namque pro declinatione auſtrali adaptabitur regula æquatori verſus polum antarcticum: Deinde inter meridianos, juxta numerorũ ordinem in regula expreſſum, perquirito aſcenſionem rectam datam*, quæ in arcturo eſt $209\frac{1}{2}$, *& ibidem erit meridianus arcturi, in quo inter parallelos ipſum ſecantes numerato declinationem*, datam $21\frac{1}{4}$, *& ad interſectionem meridiani et paralleli numerati fiat notula obſcura et delebilis. Poſtea numerabis in gradibus limbi ad dextram tui partem verſus polum quidem arcticum, ſive ad ſiniſtram limbi partem verſus polum antarcticum obliquitatem zodiaci*, quæ hoc tempore eſt $23\frac{1}{2}$, *atque eo ducenda regula, index*

*index applicandus notulæ modo obſervatæ. His ita conſtitutis, reducatur regula ad ſitum priorem paralleli recti, qui jam zodiacum referet: ſic enim index inter parallelos oſtendet latitudinem arcturi 31 ab æquatore numeratam, et inter meridianos, qui hic ſunt circuli longitudinem, offert ſeſe longitudo 18¾ Libr. ſiquidem circulus meridianus quem index demonſtrat per iſtum locum regulam tranſit.*

3 Permutata ratione ex declinatione una cum latitudine ſtellæ datis. Ejuſdem aſcenſionem rectam ſimul & longitudinem perveſtigare.

*Hoc præceptum permagnum habet uſum in obſervationibus aſtrorum, & hinc facillime cognoſcere licebit, quantum ſtellæ fixæ interea ad tempora noſtra proceſſerint, ſiquidem latitudines fixarum veteribus creditæ fuerunt immutabiles, & juxta Tychonis reſtitutionem, ſtellæ quæ ſecundũ longitudinis ſitum punctis æquinoctialibus ſunt propinquiores, vel nullam vel ſaltem inperceptibilem latitudinis variationem perſentiſcunt,*

*ſiquidem*

*ſiquidem earum mutationem exiſtimat fieri ratione alteratæ obliquitatis Zodiaci, verum declinationes iſtiuſmodi ſtellarum ſubinde ſeſe mutant, quare ut ad propoſitum redeamus.*

[ Proponatur loco exempli ſpica virginis, cujus latitudo a veteribus notata fuit 2 part. auſtralis, Tycho Brahe anno 1600 cœlitus deprehendit declinationem ejuſdem 9 gr. 1 m. auſtralem, latitudine inſenſibiter mutata, quæritur longitudo & aſcenſio recta.]

*Iungatur regula parallelo recto, verſus antarcticum polum, & index ſtatuatur in parallelo auſtrali duorum graduum ad æſtimatum quemvis locum: deinde in gradibus limbi ad ſiniſtram partem verſus polum antarcticum, vel ad dextram partem verſus arcticum polum, numerabis obliquitatem Zodiaci,* quæ exſiſtit 23½, *& eo transferes regulam, quod ſi tunc index inciderit in parallelum declinationis datæ, perfecta erit operatio, quod ſi ſuperaverit illum parallelum, aut infra conſtiterit, rurſus eadem operatio repetenda, hoc eſt iterum jungenda regula parallelo recto, atque index in parallelo latitudinis ſtellæ magis verſus Cancrum vel Capricornum promovendus, pro ut nimirum idem in primo examine vel ſupra vel infra paral-*

*parallelum declinationis conſtiterit, idq; toties tentandum, quouſque regula ad gradum obliquitatis Zodiaci in limbo numeratum deducta, index in parallelum declinationis inciderit, hoc enim ubi fit mox index indicabit meridianum ſtellæ,* ex quo aſcenſionem rectam cognoſces eſſe 196 gr. 4 m. *Conſequenter regula ad parallelum rectum reſtituta monſtrabit idem index circulum longitudinis ſtellæ,* ex quo longitudinem cognoſces 18 gr. 16 m. Libr.

## Appendix.

[ Ptolomæus in almageſto ſuo lib. 7, cap. 3 recenſet Timocharim Alexandrinum cui primo fixarum loca ſtellarum curæ fuerunt, quique vixit ante Ptolomæum annis 432, obſervaſſe eandem ſpicam virginis declinare ab æquatore 1 gr. 24 m. idque verſus polum arcticum, & latitudinem annotavit eandem utpote 2 grad. auſtralem. Hinc data declinatione boreali 1 gr. 24 m. Cum latitudine auſtrali 2 gr. colligitur quod tempore Timocharis longitudo ſpicæ virg. fuerit in 22 gr. & triente virginis.

Ptolomæus poſtea ſubjungit ſuam obſervationem. & deprehendit declinationem ejuſdem ſpicæ $\frac{1}{2}$ gr. auſtralem, latitudine nullatenus mutata, unde tempore Ptolomæi longitudo ſpicæ fuit in $26\frac{1}{2}$ Virg. exinde poſtea inducit ſtellas fixas 100 annis uno gradu juxta ſeriem ſignorum progredi, quoniam inter ipſum & Timocharin effluxerant anni 432. At interim a Ptolomæi obſervatis ad annum uſque 1600 proceſſerunt ſtellæ fixæ 22 partibus. Nam ſpica a nobis ſupra anno-

tata fuit in 18 gr. 16 m. Libr. ſuntque interea a Ptolomæi obſervatis anni elapſi 1461: unde uni parti hic neutiquam 100 anni ſed 66 videbuntur attribuendi: Nobilis Tycho a Brahe proxime præterlapſis & ſubſequentibus ſeculis æſtimat centum annis promoveri ſtellas fixas 1 gr. 25, adeoque uno anno conficiant 52 m. ſed de hiſce plura ſuo loco.]

## PROPOSITI CAPITIS Doctrinam via Geometrica in figuris planis per circinum & regulam, tum etiam numeros exſequi.

4 Data longitudine & latitudine ſtellæ arcturi, ejus declinationem & aſcenſionem rectā via geometrica per circinum & regulam accipere: & contra data latitudine cum declinatione, ejus longitudinem aſcenſionemque rectam rimari.

*In ſchemate peripheria ſuper centro Q delineata ſit colurus ſolſtitiorum.*

*Recta ÆQI dimetiens æquatoris.*

*E C ecliptica, proinde GD axis ecliptica atque Y Z axis æquatoris.*

*In ecliptica ad Q intelligatur principium Ariet. & Libr. eritque ad terminum C initium Canc. & ad oppoſitum terminum E Capricorni*




*pricorni princip. a quibus in coluro duo arcus CR & EP latitudinis ſtellæ ſumantur, verſus quidem polũ bor. G ſi latitudo eſt borealis.*

[ Vt in arcturo quæ eſt 31 grad. Bor.]

*Sin vero detur auſtral. latit. tunc in contrariam partem verſus nempe polum D arcus iſti accipiendi. Proinde ducta recta PR parallelum latitud. deſignabit, ad quem ſuper centro A conſtruatur ſemiperipheria PGR, in qua a G puncto ſtellæ longitudo, quam habet a proximo æquinoctio numeretur,*

[ Quæ in arcturo eſt 18 grad. 45 m. a ♎ verſus ♑, & quomodo numeratio fieri debeat docuimus in lẽmate tom. 2. pag. 23.]

*Quare numeratio deſinet hic in T, ex quo ad diametrum PAR deſcendat perpendicularis TS, quæque ipſi GA æquidiſtabit. Atque ſignum S erit locus arcturi. Per quem ducta æquatori parallela BE, dabit parallelum declinationis arcturi, adeoque arcus coluri ÆB & IE declinationē ejus comprehendunt.*

[ Vtpote $21\frac{1}{2}$ fere.]

*Conſequenter ad parallelam BE conſtituatur ex O ſemiperipheria B♈E, ad quam ex loco ſtellæ S egrediatur perpendicularis SF, eritque arcus ♈F aſcenſio recta a proximo æquinoctio ſumpta.*

[ Quæ eſt 28 gr. 36 ut eſt in lemmate prædicto.]

5 Reciproco modo.

Detur declinatio arcturi $21\frac{1}{3}$ gr. cum latitudine 31 3.

*Quæratur.*

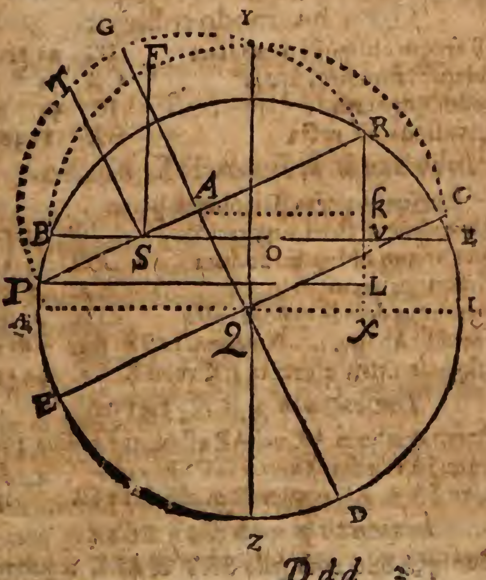
Longitudo & aſcenſio recta a proximo æquinoctio.

*In ſchæmate præmiſſo æquator ÆQI: ecliptica EC, parallel. latitud. PR, eorumq; axes GD & ♈Z ad eundem modum ſeſe habeant ut pridem: deinde ab æquatore, ad eandem partem qua declinat ſtella, ſumantur arcus declinationis arcturi IE et ÆB [utpote $21\frac{1}{3}$] ducta enim recta BE æquatori parallela dabit declinationis parallelum, ſecabitque parallelum*

*rallelum latitudinis PR ad locum ſtellæ S, ex quo excitetur ipſi PR perpendicularis ST, ſecans peripheriam PGR, ſuper parallelum PAR conſtitutam, in punctum T, adeoque arcus GT referet longitudinem arcturi à proximo æquinoctio verſus Capricorn.*

[ Eſtque illa 18, 45 a Libr. verſus Capricorn.]

*Ad eundem modum perpendicularis ST ſecabit peripheriam* BYE *(ſuper parallelum declinationis BE conſtructam) ad punctum F, atque arcus* YF *aſcenſionem rectam ab eodem æquinoctio continebit [utpote 82 gr. 36.]*



# INQVISITIO HORVM ex eodem ſchæmate per numeros, idq; calculo omniũ facillimo, qualiter apud nullũ autorẽ reperimus.

6 Quæratur declinatio arcturi ex longitudine & latitudine cognitis.

*In præmiſſo ſchæmate ad parallelum latitudinis* PAR *tanquam hipothenuſam conſtituatur triangulum* RLP *rectangulum ad L, erit recta* VX *ſinus arcus* I E, *utpote declinationis arcturi,*

Quam hoc modo colliges,

| | | | |
|---|---|---|---|
| [ Ad arcum obliquitatis zodiaci | IC | 23 gr. | 31½. |
| Addatur latitudinis arcus | CR | 31 | 3. |
| Producitur arcus | IR | 54 | 34½. |
| Cujus ſinus eſt recta | RX | 81486. | |

*Inventum primum* RX 81486.

Rurſus in altera peripheriæ parte.

| | | | |
|---|---|---|---|
| A latitudine arcturi, utpote arcu | EP | 31 gr. | 3 m. |
| Aufer arcum obliquit. zodiaci | ÆE | 23 | 31½ |
| Relinquitur arcus | PÆ | 7 | 31½ |
| Cujus ſinus deinde utpote recta | LX | 13095 | |
| Auferatur ab inv. 1. RX relinq. recta | RL | 68391 | |
| Ejuſque ſemiſsis eſt recta LK vel RK | | 34196 | |

*Inventum* 2 RK 34196.

| | |
|---|---|
| Porro qualium AR vel AP aſſumitur radius | 100000 |
| Earum SA erit ſinus arcus GT 18 45 m. | 32144 |
| Quare SA & AR conjunctim efficiunt SR | 132144. |

*Inventum* 3. SR 132144.

Suntque duo triangula SRV & ARK æquiangula.

propter

propter utrumque angulum ad K & V rectum & angulum communem R. Quare per 4 pro. lib 6. Elem. Eucl. latera circa æquales angulos ſunt proportionalia, eritque ut AR ad SR, ita RK ad RV, vel permutando.

| | | | |
|---|---|---|---|
| VT radius AD RK Inv. 2. | ITA SR Inv. 3. | AD RV Inv. 4. | |
| AR 100000 | 34196 | 132144 | 45186. |

Inventum 4 RV ſublatum ab invento primo RX, relinquitur recta VX 36300, eſtque ſinus arcus EI declinationis arcturi quæſitæ, unde declinatio erit 21 gr. 17 m. borealis.]

7 Viciſsim detur latitudo cum declinatione arcturi, libeat ejus comparare longitudinem.

*In præmiſſo ſchæmate omnia ſeſe habeant ut pridem.* Suntque data

*Arcus IE decl. arct.* 12 *gr.* 17 *m. B: ejuſque ſinus VX* 36300.

*Arcus CR latitudo arcturi* 31, 3 *m.*

Quæritur arcus GT, vel recta SA ſinus longitudinis a proximo æquinoctio.

*Inventum primum* RX 81486.

*Et invent. ſecund.* RK 34196.

Inveſtigentur ut pridem.

| | | |
|---|---|---|
| Deinde ab invento primo | RX | 81486 |
| Aufer ſinum declinationis datę | VX | 36300 |
| Relinquitur recta | RV | 45186. |

*Invent.* 3. RV 45186.

Hinc in triangulis RVS & RKA æquiangulis per 4 prop. 6 Eucl. erit

| | | | |
|---|---|---|---|
| VT RK inv. 2. | AD RV inv. 3. | ITA RA Radius | AD RS inv. 4. |
| 34196 | 45186 | 100000 | 132144. |

Ab invento hoc quarto RS auferatur radius RA, relinquitur recta AS, ſinus arcus GT, diſtantiæ ſcilicet arcturi a proximo æquinoctio verſus Capricorn. numerata, eſtque 18 45.] Ddd 4

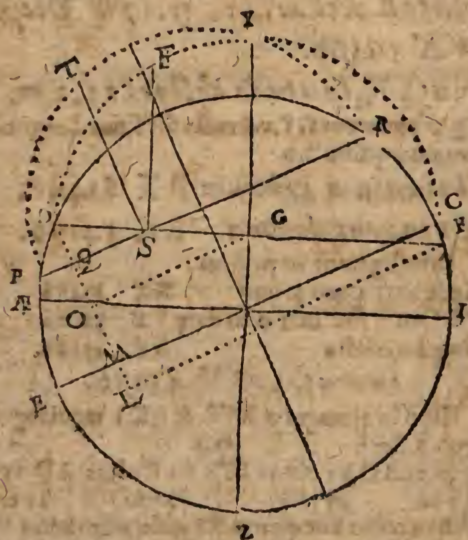
8 Rurſus ſit data latitudo arcturi cum declinatione ejuſdem, libeat ejus comparare aſcenſionem rectam.

In præmiſſo ſchæmate

*Sunt data* { *Arcus IE decl. arct.* 21 *gr.* 17 *m.*
*Arcus* CR *latitud. arct.* 31 3.

Quæritur

*Arcus YF ſive ſinus ejus, nempe recta SG aſcenſionis rectæ a proximo æquinoctio verſus Capricorn.*




*Ad*

*Ad parallelum declinationis* DE *conſtituatur triangulum* DLE *rectang. ad* L, *cujus ratiocinio rectam* S G *hoc modo colliges,*

| | | | |
|---|---|---|---|
| Ad arcum obliquit. zodiaci | ÆE | 23 | 31½ |
| Adde arcum declinationis | ÆD | 21 | 17 |
| Producitur arcus | ED | 44 | 48½ |
| Cujus ſinus erit recta | DM | | 70473 |

*Inventum primum* DM 70473.

| | | | |
|---|---|---|---|
| Rurſus in altera peripheriæ parte | | | |
| Ab arcu obliquitatis zodiaci | IC | 23 | 31½ |
| Aufer arcum declinat. arcturi | IF | 21 | 17 |
| Relinquitur arcus | CF | 2 | 13½ |
| Cujus deinde ſinus utpote | ML | | 3877 |
| Addatur invento primo | DM | | 70463 |
| Producitur recta | DL | | 74350 |
| Cujus ſemiſsis eſt recta DO vel OL | | | 37175 |

*Inventum ſecund.* OL 37175.

| | | | |
|---|---|---|---|
| Porro arcus latitudinis arcturi | EP | 31 | 3 |
| Ejus ſinus erit recta | MQ | | 51578 |
| Quam auferto ab invent. 1. | DM | | 70473 |
| Relinquitur recta | QD | | 18895 |

*Inventum tertium* QD 18895.

Duo ſunt triangula DQS & DOG, quæ ſunt æquiangula propter angulos ad Q & O rectos & communem angulum ad D. Quare per 4 p. 6. Eucl. erit

| | | | | |
|---|---|---|---|---|
| VT | DO Invent. 2. | AD DG Radium | ITA DQ Invent. 3. | AD DS Invent. 4. |
| | 37175 | 100000 | 18895 | 50827. |

*Inventum quartum* DS 50827.

| | | |
|---|---|---|
| Auferatur a radio | DG | 100000 |

Relinquitur recta SO 49173

Eſtque ſinus arcus XF quæſitæ aſcenſionis rectæ a proximo æquinoctio ſumptæ.]

## Aliud exemplum in oculo Tauri, cujus latitudo & declinatio ſunt diverſi nominis, hæc nimirum borealis, illa auſtralis.

*Datur longitudo oculi tauri in 4, 18' gem.*
*Latitudo ejuſdem 5, 31 Auſtr.*




*Quæratur*

Quæratur { *Aſcentio recta* / *Tum declinatio.*

*In ſchemate adjecto peripheria circumſcripta ſit colurus ſolſtit. in quo ÆI æquinoctialis, EC ecliptica, BV axis ecliptica, yZ axis æquatoris.*

*Arcus coluri EP & CR eſt arcus latitudinis 5, 31 auſtralis, proinde PAR parallelus latitudinis ſtellæ, ad quam ex centro A conſtituatur ſemiperipheria PVR, & ab V uſque ad F, longitudo ſtellæ a proximo æquinoctio numeretur, eſtque illa 64, 18′ ab Ariet. verſus Cancrũ: deinde a termino numerationis F deſcendat perpendicularis FS ipſi VA parallela: notabitur in PR locus ſtellæ ad S, per quem ducta recta GO, ipſi æquatori parallela, dabit GSO parallelum declinationis oculi Tauri, proinde arcus coluri IO & ÆG præfiniet declinationem oculi Tauri 15 gr. 39 min quam quæſivimus.*

*Conſequenter ex puncto ſtellæ S excitetur ad GO perpendicularis ST, ſecans ſemiperiph. gyo ad GO conſtitutam, in punctum T, adeoque arcus yt aſcenſionem rectam a proximo æquinoctio præfiniet quam ſcire intendimus.*

Vice

Vice verſa, Si ex data latitudine & declinatione, velis cognoſcere longitudinem oculi Tauri, cum aſcenſione recta ejuſdem.

*Secundum latitudinem & declinationem oculi Tauri datas, conſtituantur in ſchemate paralleli PR latitudinis, & GO declinationis ſtellæ, ſecantes ſe invicem ad punctum S locum ſtellæ deſignans, ex quo egrediantur perpendiculares ST & SF, arcus peripheriæ FF præfinit longitudinem ſtellæ a proximo*



*æquinoctio verſus Cancr. & arcus yt præſinit ejuſdem aſcenſionem rectam ab eodem æquinoctii puncto.*

# INQVISITIO PER NUMEROS.

*Datur longitudo oculi Tauri in 4 grad. 18 m. Geminor.*

*Cum latitudine ejuſdem auſtr. 5 gr. 31 m.*

Quæratur declinatio.

¶ In ſchæmate præmiſſo depingatur triangulum PDR, rectangulum ad D, recta XN erit ſinus arcus ÆG declinationis: quam hoc modo venabimur.

| | | | |
|---|---|---|---|
| Ad obliquitatis zodiaci arcum | ÆE | 23 | 31½ |
| Adde arcum latitudinis | EP | 5 | 31 |
| Producitur arcus | ÆP | 29 | 2½ |
| Cujus ſinus eſt recta | PX | | 48544 |

*Invent. primum PX 48544.*

| | | | |
|---|---|---|---|
| Rurſus in altera peripheriæ parte | | | |
| Ab arcu obliquitatis zodiaci | IC | 23 | 31½ |
| Aufer arcum latitudinis ſtellæ | CR | 5 | 31 |
| Relinquitur arcus | IR | 18 | 0½ |
| Cujus ſinus erit recta | XD | | 30915 |
| Quæ addatur inv. 1. ſcilicet rectæ | PX | | 48544 |
| Producitur recta | PD | | 79459 |
| Cujus ſemiſsis erit recta KD vel KP | | | 39729 |

*Invent. ſecund. KP 39729.*

| | | |
|---|---|---|
| Porro ſinus arcus VF utpote recta | AS | 90108 |
| Addatur radio | PA | 100000 |
| Producitur recta | PS | 190108 |

*Invent.*

*Invent. tertium PS* 190108.

Sunt itaque duo triangula PKA & PNS quæ ſunt æquiangula, anguli enim ad K & N ſunt recti, & angulus P utrique triangulo eſt communis. Quare per 4. prop. lib. 6. Euclidis. Erit ut PA ad PS, ita PK ad PN, vel permutando.

VT PA Radius AD PK Inv. 2. ITA PS Inv. 3. AD PN Inv. 4.
100000 39729 190108 75528

Ab invento hoc quarto PN aufer inventum primum PX, relinquitur XN 26984 ſinus declinationis arcus GÆ, quare declinatio GÆ erit 15 gr. 39 m. Borealis.]

Vice verſa data declinatione cum latitud. oculi ♉: ipſius indagare longitudinem.

*In eodem ſchemate ex theſi dantur*

*Arcus declinationis ÆG vel IO* 15 *grad.* 39 *m. bor.: ejuſque ſinus XN* 26984.

*Arcus latitudinis PE* 5 *gr.* 31 *m. auſt.*

Quæratur recta AS, ſinus arcus FV, præfinientis longit. a proximo æquinoctio verſus Cancr.

*Invent. primum PX* 48544.

*Et invent. ſecund. PK* 39729.

| | | |
|---|---|---|
| Inveſtigentur ut pridem | | |
| Deinde ad inventum primum | PX | 48544 |
| Adde ſinum declin. utpote arcum | XN | 26984 |
| Producitur recta | PN | 75528 |

*Invent. tertium PN* 75528.

Hinc in triang. æquiang. PKA & PNS erit per 4 p. 6. el. Eucl.

VT PK Inv. 2. AD PN Inv. 3. ITA PA Radius AD PS Inv. 4.
39729 75528 100000 190108

Ab invento quarto PS ablato Radio PA, relinquitur recta AS 90108 ſinus arcus VT longitudinis oculi ♉ ab ♈ verſus ♋, eſtq; 64 18. Quare exſiſtit in 4 18′ ♊.]

PRO-

# PROPOSITI CAPITIS doctrinam ratiocinio Triangulorum Sphæricorum colligere.

9 Proponatur loco exempli ſtella Arcturi, cujus longitudo hoc anno exiſtit in 18, 45 m. Lib. latitudo eſt 31 3 m. bor. Quæritur aſc. recta & declinatio ejuſdem.




*In adjecto diagrammate ZrIN ſit colurus ſolstit. ZQO zodiacus ejuſque polus P, ad Z punctū Q ſit principium Ariet. & Libr. O princip. ♋ Z princip. Capr.*

*S locus stellæ arcturi.*

*PSL ex polo zodiaci per stellam tranſiens ad zodiacum, eſt quadrans circuli longitudinis stellæ proinde arcus Zodiaci OL longitudo ſtellæ a ♋ numerata, ac LS latitudo ejuſdem.*

*MD quadrans meridiani stellæ, adeoque DÆ distantia ejus a coluro ſolſtitij. hiberni, & DS declinatio ejuſdem quæ hoc modo pervestiganda.*

In

In triangulo ſphærico obliquang. PMS ſunt data.

[ Crus PM diſtantia poli zodiaci a polo mundi 23 31½
Crus PS compl. latitud. arcturi 58 gr. 57 m.
Et angulus comprehenſus a cruribus PM 108 4.
Menſurat arcus eclipticæ LO, longitud. ſtellæ a canc. initio.

Quæruntur hinc

Latus tertium MS compl. declinationis ſtellæ, & ang. M, quem menſurat arcus æquinoctialis DÆ, utpote diſtantiæ ſive aſcenſionis rectæ ſtellæ a coluro ſolſtitui hyberni numeratæ.]

## 10 Inquiſitio per numeros.

*Primo quæritur latus tertium MS idque per* 23 *probl. ſphæricorum, quod datis cruribus dati anguli tertium latus repperit.*

| | | | |
|---|---|---|---|
| [ Crus datorum majus | PS | 38 | 57 |
| Ejus complementum | | 31 | 3 |
| Addatur cruri minori | PM | 23 | 31½ |
| Producitur arcus | | 54 | 34½ |
| Cujus ſinus eſt *Inventum primum* | | 81486 | |
| Rurſus a complemento majoris cruris | | | |
| Auferatur crus minus, relinquitur arcus | | 7 | 31½ |
| Cujus deinde ſinus utpote | | 13095 | |
| Auferatur ab invento primo, relinquitur | | 68391 | |
| Cujus ſemiſsis eſt *Inventum ſecundum* | | 34195 | |

Porro, angulus trianguli M datur 108 gr. 45 m.
Cujus ſinus verſus eſt *Inventum tertium* 32144

| | | | |
|---|---|---|---|
| VI radius AD | Inv. 2. ITA | Invent. 3. AD | Invent. 4. |
| 100000 | 34195 | 32144 | 45186. |

Inventum 4 jam repertum auferatur
Ab invento primo, relinquitur 36300

Eſtque ſinus declinationis quæſitæ, utpote lateris MS atq; ſinui 36300 reſpondet arcus 21 17, & tanta exſiſtit decl. arcturi quæſita; ejuſq; compl. eſt latus MS 68 43.]

*Secun-*

*Secundo quæritur angulus PMS, idque ex datis duobus lateribus PS & MS, cum angulo uni eorum oppoſito P, namq; per 21 probl. ſphæricorum erit.*

| VT | AD | ITA | AD |
|---|---|---|---|
| ſin.lat. MS ang. not. ſub-tendent. | ſin.ang. P dati. | ſin.lat. PS dati. | ſin. ang. M quæſ. |
| 93180 | 94693 | 85672 | 87063. |

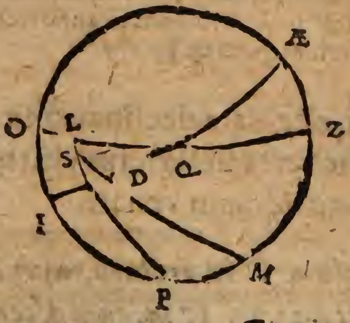
Atque ſinui 87063 reſpondet arcus 60 32 m. & totidem eſt arcus æquinoctialis ÆD, menſurans ang. quæſitum M, eſtque diſtantia meridiani ſtellæ a coluro ſolſtitii hiberni, unde aſcenſio recta arcturi ab ariete eſt 209 28 m.]

*Aliud exemplum in oculo Tauri Aldebaran, cujus latitudo & declinatio ſunt diverſi nominis: hæc nimirum borealis, illa auſtralis.*

*ÆI æquinoctialis, ejus polus antarctic. M.*

*ZO Zodiacus, polus ejus auſtrinus P.*

*S locus ſtellæ.*



*PL quadrans circuli longitudinis auſtralis, proinde LS latitudo oculi Tauri auſt. & arcus zodiaci LZ longitudo ſtellæ a Capric. menſurans angulum MPL obtuſum.*

*MS, arcus meridiani ſtellæ excedens quadrantem circuli ſecundum declinationis arcum DS.*

*Arcus æquinoctialis DI eſt diſtantia meridiani ſtellæ a ſolſtitio æſtivo menſurans ang. M.*

In triangulo MSP dantur.

[ Crus PS compl. latitudinis 84 29.
Crus MP diſtantia polorum 23 31½.
Et ang. a cruribus datis comprehenſus MPS 154 18 longitudo ſtellæ a Capric.

*Quæruntur.*

Latus tertium MS, eritque 105 39: unde DS utpote declinatio ſtellæ borea: erit 15 39.

Angulus M qui erit 26 58 eſtque remotio meridiani ſtellæ a ſolſtitio æſtivo: unde aſcenſio recta ab ♈ numerata erit 63 gr. 22 m. ]

Reciproce data declinatione & aſcenſione recta ſtellæ: ejus latitudinem & longitudinem venari.

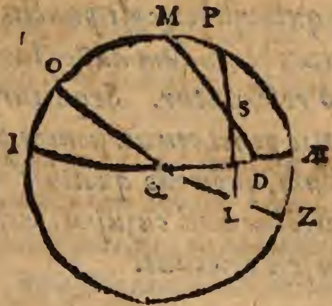
*Exemplum ſit in arcturo, cujus declinatio fuit reperta 21 gr. 17 m. cum aſcenſione ejus*

*recta*

*recta ſumpta a coluro ſolſtitii hyberni* 60 32

*Quæratur ejus latitudo cum longitudine.*

*Repetatur præmiſſum ſchama.*




[ In triangulo PSM obliquangulo, dantur
Crus MS complement. declinat 68 gr. 53 m.
Crus PM diſtantia polorum mundi & zodiaci 23 31½.
Angulus comprehenſus PMS 60 32.

*Quæruntur.*

Latus tertium PS per 23 probl. eſtque complementum latitudinis: Angulus SPM per 21 probl. longitudinem arcturi a cancro comprehendens. ]

## *Permutando.*

Ex datis declinatione & latitudine ſtellæ: aſcenſionem rectam & longitudinem rimari.

*In triangulo PMS.*

Innoteſcunt { Latus PS complementum latitud.
Latus MS complementum declinat.
Lat. PM diſtant. poli mundi a zodiaci polo.

Quæruntur. { Ang. SMP aſcenſionis rectæ a coluro ſolſtitiorum. / Ang. SPM long. ſtellæ quæ a 69 numeratur.

*Hactenus de ſtellis tam fixis quam erraticis, & quibuſlibet cæli punctis, quatenus penes motum ſecundum ad Zodiacum et æquinoctialem referuntur. Sequitur earundem conſideratio penes converſionem primi mobilis. Primum, quomodo quolibet momento & quavis diei hora ad cujuſvis terreni loci horizontem ſeſe habeant.*

## Caput 4.

Solis aut puncti eclipticæ, & ſtellæ cujuſvis fixæ latitudinem ortivam & occiduam: tum quoque & arcum diurnum & nocturnum, horamq; ortus & occaſus eorundem quolibet anni die ad quamlibet poli elevationem explorare.

Vice verſa, data amplitudine ortiva puncti cujuſvis eclipticæ: ſive cognita

cognita hora ortus ſolis, quæ ſit poli elevatio reſpondens colligere.

## I. INQVISITIO PER PLANISPHÆRIUM.

*Numera in gradibus limbi, a polo arctico ad ſiniſtram partem verſus æquatorem, gradus elevationis poli, atque eo ducatur regula horizontis, quæ iſto modo ad latitudinem regionis erit compoſita, (quod hoc loco ſemel admonuiſſe in poſterum ſufficiat) deinde parallelum per locum ſolis incedentem obſerva, is enim ubi horizontem interſecat latitudinem ortus & occaſus quæſitam oſtendet, ſi modo numeraveris partes regulæ a centro uſque ad dictum contactum: conſequenter meridianus ſive horarius circulus per idem contactus punctum incedens, arcum ſemidiurnum & ſeminocturnum, id eſt horam occaſus, ab extimo & dextro meridiano, & horam ortus ab extimo et ſiniſtro meridiano numerando præfiniet: nec non incipiendo a meridiano recto uſque in eundem meridianum, differentia*

*aſcenſionalis, per quam tabulæ aſc. obliquarum conduntur, numerabitur.*

## Inſtitutio exemplaris.

[ Sole exſiſtente in ♋ libet ſcire amplitudinem ortivam occiduamque, nec non & arcum diurnum & nocturnum cum hora ortus & occaſus ſolis. una cum differentia aſcenſionali ejuſdem, idque in elevatione poli Franequerana 53: compono regulam horizontalem ſecundum latitudinem datam 53 gr. moxque video parallelum ſolis, hoc eſt Tropicum ♋ horizontem ſecare in 42 ejus partem a centro numeratam. & totidem graduum eſt amplitudo ortivam occiduaque ſolis in Canc. conſtituti.

Porro numero inter horarios circulos ab extimo & dextro incipiendo, uſque ad meridianum, qui horizontem in idem contactus punctum tranſit, & cognoſco arcum ſemidiurnum ſolis 125¾ gr. ſive horam occaſus octavam veſpertinam cum 5 gr. qui tertiam horæ partem efficiunt, quibus duplicatis, erit totus arcus diurnus 250½ gr ſive 16 horarum cum duabus tertiis.

Ad eundem modum numerando a ſiniſtro meridiano inter horas antemeridianas; video arcum ſeminocturnum 54 gr. 43 m. Horamque ortus ſolis tertiam cum duabus tertiis, unde arcus nocturnus erit 109 gr. 26, ſive horarum 7⅓. Poſtmodum incipiendo a meridiano recto numero pro differentia aſcenſionali 35¾ gr.]

*In ſtellis eadem exiſtit operatio, dummodo declinatio earundem habeatur.*

## Exemplum.

[ Proponatur exempli loco arcturus cujus declinatio per cap. antecedens reperta fuit 21 gr, 17 m. bor. Conſtituo regulam horizontalem in limbo ad latitudinem

Frane-

Franequeranam 53 gr. atque inter parallelos declinationem arcturi numero, utpote 12¼ idque ab æquatore verſus polum arcticum, propter declinationem arcturi borealem, & parallelus in quem finit numeratio, erit parallelus arcturi, ejuſque contactus ad horizontem indicat quæſitam latitudinem ortivam & occiduam inter partes horizontis a centro numeratam, ſuntque gr. 38 fere.

Porro meridiani qui numerantur ab extimo & dextro uſque ad meridianum, qui per eundem horizontis contactum tranſit, exhibent arcum ſemidiurnum 121 gr. 10 m. id eſt 8 hor. 5 m. Sed meridiani a dextro uſque ad eundem locum numerati, exhibent arcum ſeminocturnum 59 gr. fere, ſive 3 horarum 55 m. Hinc arcus diurnus arcturi eſt horarum 16 gr. 9 m, & arcus nocturnus 7 hor. 51 m. Tandem meridiani a recto ſive ab axe numerati, exhibent pro differentia aſc. 31⅙ gr. fere. ]

2 De inquirenda hora ortus occaſuſque ſtellę ad quemlibet anni diem per aſtrolabii dorſum, quando nimirum ex præmiſſo pręcepto arcum ſemid. & ſeminoc. ejuſdē cognoſcimus.

*Conſequenter cognito ex hoc præcepto arcu ſemid. vel ſeminoct. ſtellæ cujuſvis, ſi in ulterius per totū annū horā ortus & occaſus præfinere exinde libuerit: fiet hoc commodiſsime per aſtrolabii dorſū. Namq; ſi ſtella propoſita volvello non exſtat inſcripta, ei erit inſcribenda juxta modum quem in fabrica planiſpharii expoſuimus: quo facto, Numerabis in dorſo planiſpharii, inter gradus vel horarum*

*intervalla limbi, arcum ſeminocturnum incipiendo ab hora 12 mediæ noctis ſecundum ſeriem horarum, quando nimirum horam ortus deſideras, vel contra horarum ſeriem, ſi horam occaſus ſcire intendis & ibidem dioptra jungatur, ad quam traducito ſtellam volvello inſcriptam: deinde manente volvello in iſto ſitu, transferatur dioptra ad quemcunque velis Zodiaci gradum ſive anni diem, quæ mox in limbo monſtrabit horam deſideratam iſtius diei.*

## Exemplum.

[Quæritur hora ortus arcturi pro quolibet anni die. Arcus ſeminocturnus arcturi ſupra repertus fuit 59 gr. fere, ſive horarum 3 55 m. quibus in limbo ab hora 12 mediæ noctis ſecundum ſeriem horarum numeratis, adjungo ibidem regulam, ad quam ſtellam arcturi volvello inſcriptam perduco, & manente volvello, transfero dioptram ad quemcunque velim anni diem ſive zodiaci gradum, verbi gratia ad 22 diem martii, ſive ad principium ♈, quæ mox in limbo indicat horam 6 veſpertinam fere, qua arcturus iſto anni tempore oritur: eodem modo, manente adhuc volvello, transfero dioptram ad principium ♉ ſive 21 diem Aprilis, atque tunc regula indicat horam 4 pom. qua idem arcturus oritur. Et ſic eadem operatione per totum annum horam ortus arcturi facillime cognoſces. Idem quoque intelligendum de hora occaſus, niſi quod in principio arcus ſeminocturnæ ſtellæ ſit in limbo contrario ordine ab hora 12 mediæ noctis numerandus.]

*Reci-*

## *Reciprocum.*

3 Vice verſa, ſi per obſervationem ex ipſo cęlo deſumptam, vel aliunde etiam, latitudo ortus occaſuſq; ſolis vel ſtellę cujuſvis daretur, & latitudo tamen iſtius regionis ignoretur: in ejus cognitionē reciproco operandi modo deducemur hoc modo.

*Numeretur data latitudo ortus occaſuſve ſolis vel ſtellæ inter partes regulæ, idque a centro ſiniſtrorſum, ſi borealis fuerit: dextrorſum ſin auſtrina. deinde volvatur regula quouſque punctus latitudinis ortus attingat parallelum per locum ſolis tranſeuntem, iſto enim modo regula ipſa poli elevationem in limbo ſignabit.*

[ Exemplum ad 11 diem Iunii anni 1604, Sole exiſtente in Cancri initio, ex obſervatione per aſtrolabium inſtituta deprehendi occaſum ſolis in 45 horizontis gr. ab occidentis puncto verſus ſeptentrionem, quæritur quæ ſit poli elevatio reſpondens. Numero in horizontis partibus a centro ſiniſtrorſum latitudinem occiduam datam 45 borealem, eamque perduco ad perallelum ſolis, qui hic eſt tropicus Cancri, mox enim oſtendit regula $55\frac{1}{7}$. Limbi gradum a polo numeratum, & totidem eſt elevatio poli quæſita.]

*Haud abſimili ratione idem explorabitur, ſi cognitam habes horam ortus occaſuſve ſolis: ſive per cognitam diei noctiſve quantita-*

*tem. Applicata enim regula horizontis ad illud punctum in quo parallelus circulum horarium exorientis ſolis ſecat, mox eadem in limbo elevationem poli quæſitam commonſtrabit.*

[ Legitur apud Plinium quod Alexandriæ longiſsimus dies (Sole nimirum exſiſtente in Cancr. principio) ſit 14 hor. Quæritur quæ ibidem ſit poli elevatio?

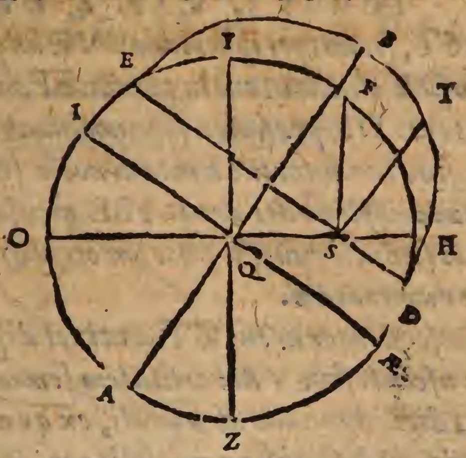
Arcus ſemediurnus ſive ſolis occaſus erit hor. 7. Quæro itaque inter horarios horam ſeptimam pom. eique in tropico cancri annotatæ horizontem adjungo, quæ mox in limbo elevationem poli quæſitam oſtendet, utpote 30¾ gr.]

## EANDEM HANC DOCTRINAM RATIONE GEOMETRICA PER FIGURAS PLANAS CONCLUDERE.

4 Data ſolis declinatione: amplitudinem ejus ortivam & occiduam, nec non & arcum diurnum & nocturnum, ſive horam ortus & occaſus in quavis regione explorare.

*In ſchemate adjecto peripheria ex Q delineata, ſit meridianus Franeq.*

*HO horizon, a quo hinc inde in meridiano ſumantur duo arcus OI & HÆ elevationis æquatoris 37; proinde*




*AQI æquinoctialem referet, & BA axin mundi, ΥZ axin horizontis.*

*Porro ab æquatore numerentur duo arcus declinationis ſolis datæ, qui ſint* IE *&* *ÆD. verſus polum boreum pro declinatione bor. contra fiet in declinatione auſtrali data.*

*Recta* DE *erit parallelus declinationis ſolis ſecans horizontem in punctum S, eſtque terminus ortus occaſuſque ſolis, ex quo excitetur horizonti perpendicularis SF, ſecans meridianum ad F. Proinde arcus ejus HF, continet gradus amplitudinis ortivæ a ſept. numeratæ.*

*Rurſus ex S excitetur ipſi* DE *perpendicu-*

*laris*

*laris ST, ſecans peripheriam* DVE *ad parallelum* DE *conſtitutam in punctum* F, *proinde arcus ejus* DF *præfiniet ſeminocturnum arcum, ſive horam ortus a media nocte ſumptã, ejuſque complementi arcus* FBE *menſurabit arcum ſemidiurnũ, ſive horam occaſus a meridie numeratam.*

*Conſequenter arcus BT continet differentiam aſcenſ. ſive diverſitatem ſemidiurni arcus diei inæqualis ab æquali, ex qua deinceps aſc. & deſc. obliquam ſolis cap. ſeq. venabimur.*

[ Quomodo autem prædicti arcus ſint numerandi & cognoſcendi docuimus in lemmate Tom. 2 Pag. 23.]

5 Reciproce dato arcu ſemidiurn. & ſeminoct. cum declinatione ſolis cognita, elevationem poli inquirere.

*In præſcripto meridiano conſtituantur, AI, æquinoctialis, & parallelus declinationis* DE, *cum peripheria* DBE, *in qua peripheria, a* D *uſque ad* F, *numerato arcum ſeminocturnum & deſcendat in* D E *perpendicul.* FS.

*Conſequenter per meridiani centrum Q & per S ducta linea HO, dabit horizontem AC; proinde arcus HB comprehendit poli elevationem deſideratam.*

PRÆ-

## PRAESENTIS CAPITIS doctrinam ratiocinio triangulorũ ſphæricorum perficere.




6 *Datur declinatio ſolis in Canc.* 23 $31\frac{1}{2}$: *Quæritur latitudo ortiva, arcusque diurnus & nocturnus ejuſdem ad horizontem Franequerenſem, ubi polus arcticus elevatus eſt* 53.

*In adjecto diagrammate.*

*MOH ſit meridianus Franequerenſis.*

*HQO horizon Franeq.*

*ÆQI æquinoctialis.*

*PSA parallelus declinationis ſolis, qui hic eſt tropicus Cancri.*

*S Sol ad horizontem exoriens.*

MSD *meridianus ſolis, proinde* DS *declinatio ejuſdem.*

*Arcus paralleli PS reſpondens arcui æquatoris* ÆD, *eſt arcus ſeminocturnus ſolis, præfiniens horam ortus: proinde arcus SA ſive*

DI

DI, *erit ſemidiurnus, præfiniens horam occaſus ſolis.*

*Arcus horizontis QS eſt amplitudo ortiva ſive occidua: quæ inquirenda nobis ſunt.*

[ In triangulo ſphærico MHS rectangulo ſunt data. Baſis anguli recti MS complementum declinationis ſolis, utpote 66 28½.

Crus ang. recti MH elevatio poli Franequer. 53 gr.

Quærantur

Crus alterum HS, complementum latitudinis ortivæ ſolis: & angulus M, quem menſurat arcus ſeminocturnus ſolis, utpote æquinoctialis arcus ÆD per 18 prop. part. 1 Trigon.

In triangulo præſcripto MHG per 3 probl. erit.

| | | | |
|---|---|---|---|
| VT Radius | AD ſecant. cru. MH | ITA ſinus cōpl. baſis MS | AD ſin. cōpl. crur. HS |
| 100000 | 166104 | 39915 | 66300. |

Atque ſinui 66300 reſpondet arcus 41 gr. 32 totidem eſt amplitudo ortiva QS, utpote compl. arcus HS.

Rurſus in eodem triangulo MHO per 12 probl. erit

| | | | |
|---|---|---|---|
| VT Radius | AD tang cōpl. baſis MS | ITA tang. crur. MH | AD ſin. cōpl. ang. M |
| 100000 | 43533 | 132704 | 57770. |

Atque ſinui 57770 reſpondet arcus compl. 54 grad. 42½, & totidem eſt arcus ſeminocturnus ÆD, quibus in horis reductis, erit hora ortus ſolis 3 gr. 39 m. integer arcus nocturnus erit 109 25 m. ſive 7 hor. 18 m. quibus a 24 horis ablatis erit arcus diurnus 16 hor. 42 m. Cujus ſemiſsis erit hora occaſus 8 hor. 31 m. ]

*Idem quoque ratiocinio trianguli rectanguli* QDS *paulo aliter colligemus. In hoc enim*

*nim triangulo, angulus Q continet complem. elevationis poli, namque ipſum menſurat arcus meridiani ÆH, elevatio æquatoris ſupra horizontem, & crus huic angulo oppoſitum* DS, *eſt declinatio ſolis. Quare dato crure cum angulo ei oppoſito per* 8 *probl. invenitur baſis QS amplitudo ortiva vel occidua. Conſequenter per* 2 *probl. inveſtigatur crus alterum* QD, *quod ipſum adjectum quadranti QI producit arcum ſemidiurnum* DI *ſive horam occaſus ſolis a meridie, vel idem a quadrante QÆ ablatum, relinquit arcum ſeminocturnum Æ*D, *ſive horam ortus a media nocte numeratam.*

NOTANDUM.

*Idem illud crus* QD *ab aſtronomis appellatur differentia aſcenſionalis, per quam aſcenſionem & diſcenſionem obliquam ſolis & ſtellarum cognoſcimus. Hinc quoque tabulæ aſc. obliquarum conficiuntur, de quibus cap. ſequenti.*

Eadem erit horum inquiſitio ſole exiſtente in ſignis auſtralibus.

Verbi gratia.

*Quæratur latitudo ortiva occiduaque,*

*arcus*

*arcus quoq; diurnus et nocturnus ſolis, quando eſt in principio Capricorn. conſtitutus.*

*In præmiſſo ſchæmate TSV ſit parallelus declinationis ſolis, utpote tropicus capricorni. proinde S punctum horizontis ad quod Sol exoritur & occidit.*

*SV ſive Rl arcus ſemidiurnus ſolis, adeoque ÆR ſive TS arcus ſeminocturnus.*

*QS amplitudo ortiva & occidua.*

[ In triangulo itaque XSO rectangulo ad O ſunt data.
Baſis XS compl. declinationis ſolis 66 28½.
Crus XO elevatio poli Franeq. 53.
Hinc eadem operandi forma dabitur per 3 problem. compl. crur. SV, ſive latitudo ortiva QS 41 gr. 32 m. ut pridem: nec non per 12 probl. invenitur ang. RXI, quem menſurat arcus ſemidiurnus RI 54 42½. Vnde arcus ſeminocturnus ÆR ſive TS erit 325 17½, quibus in horis reductis, erit hora ortus ſolis 8 m. 21 horaque occaſus 34 39 m. contrario mod o ac pridem. ]

7 In ſtellis fixis ſimilis eſt operatio, quare exemplum in arcturo eodem ſchæmate proponemus.

*In ſchæmate præmiſſo PSA intelligatur parallelus declinationis ſtellæ arcturi, cujus nempe amplitudinem ortivam & occiduam, arcum diurnum & nocturnum, cum hora ortus & occaſus ſcire intendimus. Reliqua eodem modo ſe habent ut pridem.*




*Signum S erit locus horizontis, ad quem arcturus oritur & occidit: proinde,*

*QS amplitudo ortiva & occidua,*

*MSD meridianus arcturi, adeoque DS declinatio: arcus paralleli PS, reſpondens arcui æquatoris ÆD, eſt arcus ſeminocturnus ſtellæ, proinde SA ſive DI arcus ſemidiurnus.*

[ Hiſce ita præcognitis, repetatur triang. MHS in quo

Dantur

Baſis anguli recti MS compl. declinationis arcturi per caput antecedens: utpote 68 gr. 43 m.

Crus anguli recti MH elevatio poli Franeq. 53 gr.

Quæruntur

Crus HS compl. latitudinis ortivæ.

Angulus HMS, quem menſurat arcus æquinoctialis, ſive ſeminocturnus arcus ſtellæ ÆD.

Operare ſecundum exemplum ſolis, invenies pro crure HS. 52. grad. 54. m. Quare SQ amplitudo ortiva eſt. 37 gr. 6. m.

Pro angulo HMS invenies 58 gr. 32 m. & totidem eſt arcus ſeminocturnus arcturi.

Vnde arcus nocturnus erit 117 grad. 44 m. ſive hor. 7. 51 m.

Arcus diurnus 242: 16 m. ſive horarum 16: 9 m.

*Hæc etiam in triangulo QDS conſiderantur, in quo dantur*

Angulus SQD, namque eum menſurat arcus meridiani ÆH elevationis æquatoris ſupra horizontem 37 gr.

Latus DS declinatio arcturi 21 17 m.

*Quæruntur*

Baſis ang.recti QS amplitudo ortiva & occidua. latus DQ differentia aſcenſionalis, quæ nihil aliud eſt quam diverſitas ſemidiurni arcus diei inæqualis ab æquali, vel ut monet Copernicus cap.9 lib.2 differentia diei æquinoctialis & diverſi. Hoc igitur latus DQ inventum addatur quadranti QI, dabitur arcus ſemidiurnus DI, vel auferatur idem latus DQ ex quadrante ÆQ, relinquitur ÆD arcus ſeminocturnus Arcturi.]

8 Dato ex præſenti præcepto arcu ſemidiurno vel ſeminocturno ſtellæ fixæ: horam ortus & occaſus ejuſdem ad quemlibet anni diem colligere.

*In hiſc. aſc. recta ſtellæ & aſc. recta ſolis requiruntur, quibus datis, hoc ut ſequitur modo propoſitum exequeris.*

*Arcum ſemidiurnum ſtellæ ab aſc. recta ejuſdem auferto, ſi horam ortus ſtellæ deſideras: contra eidem adjungito, ſi nempe horam occaſus ſcire intendis, iſto enim modo cognoſces gradum æquinoctialis ad meridianum poſitum, vulgo vocant aſc.rectam medii cæli: ab hac deinde ſubtrahito aſcenſionem rectam ſolis tempori tuo convenientem: relinquetur hora ortus vel occaſus pro ut operatus ſis.*

Exemplum.

[ Quæritur hora ortus arcturi Franeq. ad 16 diem Iulii ſole exiſtente in 3 gr. ♌ circiter.

Aſc. recta arcturi per cap.3 fuit 209 28.

A qua

A qua auferatur arcus ſemidiurnus per præcedens præceptum acquiſitus 121 8.
Relinquitur aſc. recta medii cæli 88 20.
Adde integrum circulum propter ſubſtract. fiunt 448:20.
Auferatur inde aſc. recta ſolis, quæ hic eſt 125 18.
Relinquitur hora ortus arcturi gr. 325:2 m.
Oritur igitur arcturus tum temporis ad horam 21 32½ a meridie numeratam, id eſt ad horam 9:32½ matutinā.

*Quæritur hora occaſus*

| | | |
|---|---|---|
| Ad aſc. rectam arcturi | 209 | 28. |
| Adjicito arcum ſemid. Arcturi | 121 | 8. |
| Producitur aſc. recta medii cæli | 330 | 36. |
| Hinc auferatur aſc. recta ſolis | 125 | 2. |
| Relinquitur hora occaſus in gr. | 205 | 34. |

Qui efficiunt horas 13 4 m. a meridie Franeq. numeratas, id eſt occidit tunc temporis arcturus hora noct. 1. m. 41.]

## Corollarium notandum.

*Partes eclipticæ, & quævis etiam cæli puncta ſive ſtellæ, quæ ab æquinoctiali in eandem cæli partem verſus polum vel arcticum vel antarcticum æqualiter declinant, habent arcus diurnos & nocturnos, nec non & amplitudines ortivas occiduaſque ad eandem horizontis plagam æquales. Contra vero puncta cæli, quorum unius declinatio eſt borealis, alterius auſtralis, hoc eſt, quæ in adverſas cæli partes ſecundum æqualem tamen remotionē ab æquinoctiali declinant: ex illis, unius arcus diurnus æquatur nocturno alterius &*

*contra: eorumque latitudines ortivæ & occiduæ ſunt in contrarias horizontis plagas æquales.*

9 Reciprocum hujus doctrinæ ex ejuſdem trianguli ratiocinio manifeſtum erit.

*Verbi gratia ſit data amplitudo ortiva, & locus ſolis in ecliptica datus, ex quo declinatio ejus per c. 3 nō ignorabitur: hinc in triang. XSO dantur baſis XS compl. decl. ſolis; crus ang. recti SO compl. latitud. ortivæ. Unde per citatum 18 probl. crus alterum XO inveſtigari licebit, eſtq; elevatio poli quæſita.*

Idem quoque expiſcabimur ex triangulo rectangulo QIS, *ubi datur*, baſis ang. recti SQ, amplitudo ortiva: crus RS, Declinatio ſolis: unde per 11 probl. inveſtigabitur angulus Q; quem menſurat arcus IO, compl. elevationis poli.

RURSUS.

*Si detur locus ſolis ſive declinatio ejus, cum hora ortus ſive occaſus ſolis; per ratiocinium eorundem triangulorum eandem poli elevationem colligemus.*

[ In triangulo enim XSO, latus XS eſt compl. declinationis ſolis, angulus X præfinit arcum ſemidiurnū, namq; ipſum menſurat arcus æquatoris IS.

Hinc

Hinc data ang. recti baſi XS, cum angulo adjacente X: latus angulo dato adjacens XO per 11 probl. non ignorabitur.

Aliter.

*In triangulo QRS dantur*

Crus QR compl. arcus ſemidiurni.
Crus SR declinationis ſolis.
Hinc per 14 probl. *Quaeritur.*
Angulus Q compl. elevationis poli.]

*Eadem erit horum inquiſitio in ſignis zodiaci borealibus, idque ratiocinio triangulorum* HMS *vel* DSQ.

*Per ſtellas ſimilis erit operatio.*

## *Eandem hanc doctrinam calculo expeditiori per tabulas differentiarum aſcenſ. concludere.*

10 Quomodo condendus canon differentiarum aſcenſionalium.

*Tabularum harum conſtructio quamvis ex antetradita doctrina ſatis luculenter intelligi poteſt: libuit tamen earundem conſtitutionis methodum ex tabulis directionum Eraſmi Rheinholdi huc tranſcribere. Preceptum ſic ſe habet:*

*Ex tabula tangentium ſingulorum gradu-um numeros excerpe uſque ad 90, & ſingulos uſque ad 89 multiplicato per primi gradus numerum: deinde rurſum ſingulos per ſecundi gradus numerum, incipiendo a ſecundo & deſinendo in 88: inde rurſus ſingulos per tertii gradus numerum, incipiendo a tertio, & deſinendo in 87: item ſingulos per quarti gradus numerum, incipiendo ab eodem, & deſinendo in 86 Eodem modo conſequenter ſi perges uſque ad 45 gradum, nihil ocioſe facies. Quod ſi poſtea ex ſingulis emergentibus numeris 7 figur. primas dextra abieceris (quando nimirum radius tabulæ conſtat ex 7 cipheris, verum quando canon tangentium 5 habet cypheras, ut noſter canon, auferēda ſunt 5 ſaltem ex primis figuris) reliqui numeri fient ſinus differentiarum aſcenſionalium. Verum ſi ad ſemiſſes vel ſextantes graduum vel ad ſingula ſcrupula condere voles hunc canonē, erunt ex tangentium canone ſimiliter excerpendi numeri, ſcilicet ad ſemiſſes, vel ſextantes graduum vel ad ſingula ſcupula.*

Exempla de integris gradibus.

[ Numerus in tangentium canone aſcriptus uni quidem gradui eſt 1745. At duobus gradibus 3492: jam ſi prior in ſe

in ſe multiplicetur & abjiciantur 5 figuræ, erit reliquus ſinus 3047 differentiæ aſcenſionalis, dum latitudo regionis, pariter & declinatio dati puncti, unius eſt gradus. Sed ſi prior itidem multiplicet poſteriorem, evadet ſinus differentiæ aſcenſionalis 6095, dum vel latitudo eſt unius gradus, & declinatio duorum: vel viciſſim latitudo duorum gr. declinatio unius. Poſtremo ipſas differentias aſcenſ. depromes ex canone ſinuum.]

*Ecce tabellam plurium exemplorum.*

| Numeri tangent. | | ſinus differ. aſcenſionalium. | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| 1 | 1745 | 30 | | | |
| 2 | 3492 | 60 | 122 | | |
| 3 | 5241 | 91 | 183 | 274 | |
| 4 | 6993 | 122 | 244 | 366 | 489 |

*Conſtat igitur ex his qua arte conſtruenda ſit tabula differentiarum aſcenſionalium ad quancunque poli elevationem, ex qua deinceps tabula aſcenſionum obliquarum conſtituuntur ut cap. ſequent. docebimus. Quapropter ſummas gratias debemus inſigni viro Johan. Regiomontano qui nos hoc onere ſublevavit, ex cujus directionum libro tabulas differentiarum aſcenſionalium ad omnes poli elevationes, incipiendo ab 1 gradu uſque ad 60 gr. huc tranſcripſimus.*

11 Vſus tabulæ differentiarum aſcenſionalium.

*Si deſideras differentiam aſcenſionalem cujuſvis puncti ecliptica, vel ſtella fixa: neceſſe erit ut prius habeas declinationem propoſita ecliptica gradus vel ſtella fixa; qua data, quares ſub verticem tabula elevationem poli, et in latere ſiniſtro declinationem acquiſitam. Namque in angulo communi concurſus reperies quaſitam differentiam aſc.*

Verbi gratia. Franequeræ ubi polus 53 elevatur, Gradus eclipticæ, ſive ſtella fixa, quæ declinat 16 gr. habet differentiam aſc. 22 gr. 22 m.]

*Quod ſi declinationi data, prater integros gradus, etiam adhaſerint ſcrupula; utendum erit parte proportionali, ut in uſu tabularum declinationis docuimus.*

Exemplum.

[ Franequeræ invenienda ſit differentia aſc. arcturi ſtellæ. Quoniam declinatio arcturi eſt 21 gr. 17 m accipio differentiam aſc. graduum declinationis 21, eſtque 30 grad. 31 m. Item differentiam aſcenſionalem debitam decl. gr. 22, quæ eſt 32 25 m. Harum differentia eſt 1 48 m. quæ debentur integro gradui declinationis. Igitur juxta regulam proportionum minutis 17, quæ gradibus declinat. arcturi adjacent. debentur minuta 30, quæ adjecta differentiæ aſc. quæ debentur declinationi gr. 21, nempe 30 gr. 37 m. habebitur differentia aſcenſionalis arcturi quæſita 31 gr. 7 m.]

*Conſequenter ſi utroque numero, Tum altitudi-*

*titudinis poli, tum declinationis ſtellæ datæ adfuerint ſcrupula, ſumenda eſt pars proportionalis bis, ut ſequitur in exemplo.*

[ Quæratur differentia aſc. prædictæ ſtellæ arcturi in elevatione poli 53 gr. 20 m.

Primum quæro differentiam aſc. arcturi ad elevationem poli 53 gr. quæ in priori exemplo fuit 31 7.

Deinde different. aſc. ejuſdem arcturi quæro pro elevatione poli 54 gr. quæ juxta formam operationis prioris exempli erit 32 gr. 26 m. ſic ut differentia utriuſque elevationis poli ſit 1 gr. 19 m. quæ debetur uni gradui altitudinis poli. Quare per regulam proportionum cognoſces 20 m. (quæ altitudini poli 53 gr. adjacent) deberi minuta 26 fere, quæ adjiciantur ad differentiam aſc. pro elevatione poli 53 grad. repertam, hoc eſt ad 31 gr. & 7 m. erit quæſita differentia aſcenſionalis 31 gr. 33 m.

12 Cognita differentia aſcenſionali: arcum ſemidiurnum & ſeminocturnum, & inde conſequenter horam ortus & occaſus in ſole, & in ſtellis enumerare.

*Quando declinatio ſive ſolis ſive ſtellæ, cujus differentia aſc. jam reperta eſt, fuerit borealis: tunc ad differentiam aſc. repertam adjice quadrantem ſive 90 gr. & dabitur arcus ſemidiurnus ejuſdem: rurſus eandem aſc. differentiam aufer a 90 gr. relinquetur arcus ſeminocturnus. Contrario prorſus modo fiet quando declinatio ſolis vel ſtellæ fuerit*

*auſtralis, tunc enim ſi differentia aſc. reperta a 90 gradibus auferatur, reliquus dabit arcum ſemidiurnum; & ſi ad 90 grad. eadem differentia aſc. addatur, concludetur arcus ſeminocturnus.*

*Porro in ſole arcus ſemidiurnus ſolis ſemper præfinit horam occaſus ejuſdem: quemadmodum & arcus ſeminocturnus horam ortus ſolis ſignificat.*

[ Verbi gratia ſole exiſtente ad principium ♋, arcus ſemidiurnus ſolis reperitur Franeq. 125 15 ſive hor. 8 m. 21, atque illæ ſunt horæ occaſus. & arcus ſeminocturnus reperitur 54 42½ ſive hor. 3: 39 m. ſuntque horæ ortus ſolis.]

*In ſtellis hora ortus & occaſus earundem ex ſole æſtimanda venit. Unde locus ſolis & aſcenſio recta ejuſdem, una cum aſc. recta ſtellæ fixæ hic requiruntur; ut ſupra docuimus. Arcus enim ſemidiurnus ſtellæ ab aſcenſione recta ejuſdem auferatur, quando horam ortus ſtellæ deſideras: contra eidem adjungatur, pro hora occaſus inquirenda: a producto vel reſiduo numero tandem aſc. recta ſolis ſubtrahatur, relinquitur hora ortus vel occaſus. Exemplum in arcturo ſuperius fuit datum.*

Tabulæ ipſæ ſubſequuntur ad finem cap. 5.

CAP.

## CAPUT 5.

Aſcenſionem & deſcenſionem obliquam ſolis & ſtellæ cujuſvis fixæ ad quemlibet horizontem cognoſcere: & de conſtructione tabularum aſc. obliquarum pro ſingulis zodiaci gradibus: nec non & de aſcenſu & deſcenſu certæ alicujus eclipticæ portionis, & duarum ſtellarum ad invicem conſideratarũ.

*Aſcenſio obliqua ſolis vel ſtellæ eſt arcus æquinoctialis ab interſectione vernali ſive a principio Arieti. (uſque ad illum æquinoctialis gradum, qui cum ſole vel propoſita ſtella horizontem obliquum aſcendit,) numeratus.*

*Deſcenſio ſolis vel ſtellæ, eſt arcus æquinoctialis ab eodem arietis principio uſque ad illum æquinoctialis gradum numeratus, qui cum ſole vel data ſtella horizontem obliquum ſubit.*

*Differunt ergo aſcenſiones & deſcenſiones obliquæ*

*obliquæ ab aſcenſionibus et deſcenſionibus rectis, quod hæ fiant in ſphæra recta, & illæ in ſphæra obliqua. in ſphæra recta aſcenſiones & deſcenſiones ſunt æquales, hoc eſt, cum quo gradu æquinoctialis ſtella quævis oritur in ſphæra recta, cum eodem etiam occidit.*

*Secus fit in ſphæra obliqua, namque aſcenſiones obliquæ ſtellarum ſunt ſuis deſcenſionibus inæquales, in ſtellis enim borealibus, aſcenſiones obliquæ ſtellarum ſunt minores ſuis aſcenſionibus rectis, ſecundum differentiarum aſcenſionalium quantitatem: & deſcenſiones obliquæ earundem ſtellarum ſunt ſecundum eandem differentiam aſcenſionalem ſuis deſcenſionibus rectis majores. Contrarium exiſtit in ſtellis ſive cæli punctis auſtralibus. Hoc eſt aſcenſiones obliquæ ſunt majores, deſcenſiones vero minores. Hinc*

1 Aſcenſione recta ſolis ſive ſtellæ cujuſvis fixæ una cum differentia aſcenſionali data: aſcenſionem & deſcenſionem ejuſdem obliquam hoc modo cognoſces,

*Quando gradus loci ſolis ſive ſtella data, habet declinationem borealem, auferes differentiam aſcenſionalem ab aſcenſione recta,*

*vel eidem addes pro declinatione auſtrali, & numerus reſiduus vel productus dabit quæſitam aſc. obliquam.*

*Contrarium faciendum in deſcenſione obliqua inquirenda, namque in punctis eclipticæ ſive ſtellis borealibus addenda eſt differentia aſcenſionalis ad aſcenſionem rectam, & in punctis auſtralibus eadem differentia erit auferenda, ut producatur ſive relinquatur deſcenſio obliqua. Ex his facile conſtare poſsit, quo ingenio tabulæ aſcenſionum obliquarum ſingularum eclipticæ partium conſtitutæ ſint, quarum conſtruendarum methodum hic ſubjicimus.*

2 Methodus condendi canonem differentiarum aſcenſionalium.

*Primum juxta præcepta cap. 3 habeas in promptu canones aſc. rectarum & declinationum ſingularum eclipticæ partium: deinde per ſingulorum graduum declinationes juxta antecedentis capitis doctrinam colligito differentias aſcenſionales, idque ad datam & aſſumptam regionis latitudinem. Poſtea ſingulorum eclipticæ graduum differentias aſcenſi-*

*cenſionales aufer quidem per ſemicirculum Zodiaci borealem, adde vero per auſtralem, hoc enim pacto colliges aſc. obliquas ad datam ſeu aſſumptam regionis latitudinem.*

[ Exemplum exhibetur in ſubjecta tabella, quæ canonem aſc. obliquarum conſtruit ad latitudinem regionis 53 gr. In hujus igitur tabellæ priori parte profecti ſumus ab initio ♈ uſque ad 4 gradum. Quorum ſingulis primum ſuę declinationes, poſtea differentię aſcenſionales aſſcriptæ ſunt, quæ ſimiliter congruunt primis 4 gradibus ♎, & poſtremis quatuor gr. ♍ & ♓.

Iam ſi verbi gratia different. aſc. primi gr. ♈ nempe 0 gr. 24 m. abſtuleris aſcenſioni rectæ ejuſdem primi grad. quæ eſt 0 gr. 55 m. relinquitur aſc. obliqua ejuſdem primi gradus, utpote 0 31. Quod ſi eandem differentiam aſcenſionalem abſtuleris aſcenſioni rectæ 29 gradus ♍. Vtpote 149 gr. 5 m. reliqua erit aſc. obliqua 29 gradus ♍ ſcilicet 148 gr. 41. Conſequenter, ſi eandem differentiam aſcenſionalem aſcenſioni rectæ vel primi gradus ♎ vel 29 ♓ adjunxeris, habebis obliquas eorum aſcenſiones. Similiter ſi differentiam aſc. congruentē ſecundo gradui ♈, quæ eſt 1 gr. 4 m. abſtuleris a recta ſua aſcenſione 1 50 m. reliquam facies obliquam aſcenſionem 0 gr. 46 m. Quod ſi ad hunc modum perrexeris, abſolves canonem aſc. obliquarum ad ſingulos gradus propagatum ſub latitudine regionis 53 gr. ]

| zodiaci gradus. | | Declinationes | Differentiæ aſc. | aſcēſio recta graduum. | aſcēſio obliqua grad. | aſcenſio recta graduū. | aſcenſio obliqua graduū. |
|---|---|---|---|---|---|---|---|
| ♈ | ♎ | | | ♈ | ♈ | ♍ | ♍ |
| 0 | 30 | 0 0 | 0 0 | 0 0 | 0 0 | 180 0 | 180 0 |
| 1 | 29 | 0 24 | 0 32 | 0 55 | 0 23 | 179 5 | 178 33 |
| 2 | 28 | 0 48 | 1 4 | 1 50 | 0 46 | 178 10 | 177 6 |
| 3 | 27 | 1 12 | 1 36 | 2 45 | 1 9 | 177 15 | 175 39 |
| 4 | 26 | 1 36 | 2 7 | 3 40 | 1 33 | 176 20 | 174 13 |
| ♍ | ♓ | | | | | | |

*Hic tamen non ignorandum quod ex obliquis aſc. ſemicirculi borealis multo facilius pateant obliquæ aſc. auſtralis ſemicirculi. Obliquarum enim ſemicirculi borealis aſcen. compl. uſq; ad integrum circulum, ſunt obliq. aſc. ſemicirc. zodiaci auſtralis, ſed converſa via, ita ut conferantur invicem bini gradus ab ejuſdem æquinoctii puncto æqualiter diſtantes.*

[ Verbi gratia. Primus ♎ gr. & viceſimus nonus ♍ æquali interſtitio abſunt a puncto autumnalis æquinoctii, eſt autem obliqua aſcenſ. 29 gr. Virg. 178 gr. 33 m. hujus complementum ad integrum circulum eſt 181 gr. 27 m. aſcenſio videlicet obliqua 1 gr. ♎. Item aſcenſio obliqua 28 gr. Virg. eſt 177:6. Hujus complementum ad circulum eſt 182 54. eſtque aſc. obliqua 2 gr. ♎.]

*Atque eodem modo conſequenter recurrendo per inventas aſc. obliquas ſemicirculi borealis, efficies obliquas aſc. ſingulorum graduum ſemicirculi auſtralis. Ratio hujus manifeſta eſt: Quia ſicut rectæ aſcenſiones talium duorum punctorum ab ejuſdem æquinoctii puncto æqualiter diſtantium junctæ, æquant ſe integro circulo: ita obliquas etiam eorundem punctorum æquales eſſe toti circulo oportet, propterea quod quanta differentia*

aſcen-

*aſcenſionalis ſubſtrahitur in boreali ſemicirculo, tanta viciſsim additur in auſtrali.*

*Atque hæc de tabularum ſintaxi: ſequitur earum uſus.*

3 Aſcenſionem ſimul & deſcenſionem cujuſvis eclipticæ puncti ex tabulis aſc. obliquarum eruere, pro data regionis latitudine.

*Si data regionis latitudo e ſolis conſtat gradibus, ingredere canonem aſcenſionum obliquarum deſtinatum illi latitudini, ex qua deſumito aſcenſionem obliquam cujuſlibet puncti eclipticæ, non ſecus ac in uſu tabulæ aſcenſionum rectarum expoſitum fuit. Datum enim Zodiaci ſignum ſuperne ad verticem canonis perquirito, ac gradum ejus in ſiniſtro latere: communis enim angulus indicabit quæſitam aſcenſionem ſi nulla ſcrupula gradibus ipſis Zodiaci adhæſerint: alioquin enim partem proportionalem ſcrupulis illis congruentem adjicies.*

Verbi gratia.

I Quæratur aſc. obliqua 3 gr. 20 m. ♌, ad latitudinem Franeq. 53 gr. In canone huic latitudini reſpondẽti cognoſco 3 gr. ♌ competere aſc. obliquam 97 grad. 13 m. ſed 4 gr. ♌ competit aſc. obliqua 98 38. Harum differentia eſt 1 gr. 25 m. ſive 85 minutorum congruens uni

gradui

grad. ſive 60.m. Quare ſecundum regulam proportionis 20.min.(quæ integris gr. annexa ſunt) debentur 28.m.fere addenda aſcenſioni 3.gr.♌. Vnde obliqua aſcenſ.erit 97.gr. 41'. conveniens 3.gr. 20.m. ♌.

*Porro ſi data regionis latitudo, ipſis gradibus annexa habet ſcrupula: geminus occurrit labor, eodem enim modo, quo jam dictum eſt, quærenda eſt obliqua aſcenſio, primum ad latitudinem proxime minorem, ac deinde ad proxime majorem; ac de utriuſque aſcenſionis differentia capienda pars proportionalis congruens ſcrupulis latitudinis. quæ pars vel addenda eſt vel abjicienda priori aſcenſioni prout poſterior aſc. vel creſcit vel decreſcit.*

## Exemplum.

Quæratur aſc.obliqua 3.gr. 20.m.♌ idque pro data regionis latitudine 53. gr.15. m. primum in latitudine 53.gr. ſuperius accepta fuit aſc.obliqua 97.41.m. Sed in latitudine 54.gr.invenitur aſc.obliqua 96. 33.m. Quarum aſcenſionum differentia eſt 68.minutorum, competens uni gradui ſive 60. min ac propterea 15.ſcrupulis quæ adjacent gradibus latitudinis datæ competunt ſcrupula 17. quæ auferenda ſunt a priori aſcenſione 97.gr.41. m.quia poſterior decrevit & minor eſt, colligitur ergo in hac data regionis latitudine aſc. obliqua dati eclipticæ puncti 97.gr. 24.min.

## 4 De Deſcenſione inquirenda.

*Cum dato puncto Zodiaci deſcendit pun-*

*ctum æquinoctialis oppoſitum ei, quod oritur cum puncto Zodiaci quod dato puncto opponitur. Hinc igitur præcepti huius ratio ſequitur. Dato enim arcui Zodiaci, qui ab ♈ numeratur, adde ſemicirculum, & aggregati arcus, id eſt oppoſiti puncti aſcenſionem obliquam perquire, dempto enim ſemicirculo ab inventa hac aſcenſione, relinquetur deſcenſio obliqua arcus propoſiti a ſectione vernali computanda.*

Exemplum.

Sit quærenda deſcenſio obliqua 3.gr. ♌ in latitudine 53. graduũ. ſi huic arcui addatur ſemicirculus perducor ad 3. grad. ♒. eſtq; punctum oppoſitum, cujus aſcenſio obliqua eſt 333. gr. 24. min. ex qua aſc. aufero ſemicirculum, id eſt, 180. grad. & relictum numerum pronunciabo deſcenſionem obliquam arcus propoſiti, nempe 3. gr. ♌, eſtque illa 253: 24.]

## *Quomodo inveniendus ſit aſcenſus & deſcenſus certæ eclipticæ portionis; nec non de ortu & occaſu duarum ſtellarum,*

*larum, inter ſe conſideratarum, diximus in Tom. 1. cap. 4. præc. 2. & 5.*

5 Data aſcenſione obliqua in propoſita quavis regione; gradum eclipticæ ſibi coaſcendentem inquirere.

*Hoc præceptum abſolvitur per arealem tabulæ ingreſſum, ad eūdem prorſus modum ut cap. 2 pag. 33. de uſu tabulæ aſcenſ. rectæ præcepimus.*

*Intrabis enim tabulam tuæ regioni deſtinatam arealiter, quærendo nimirum inter areales numeros aſcenſionem obliquam propoſitam; ilico enim in margine ſiniſtro habebis gradum ecliptica tuæ aſcenſioni competētem.*

*Quod ſi numerus aſc. obliquæ in area ejuſdem tabulæ non reperiatur, ſumenda eſt pars proportionalis ex numeris tum proximè minore & majore, ut in tabula declinationis præcepimus.*

[ Verbi gratia in latitudine Franequerana 53. gr. detur aſc. obliqua 268. 10. m. quæro quis gradus Zodiaci co-

aſcendat. In tabula iſtius latitudinis datam aſcenſionem non penitus reperio, ſed proxime minorem 267, 2.m. & proxime maiorem 268. 27.m. differentia utriuſque eſt 1 gr. 25.m. ſive 85 minut. quæ reſpondent uni gradui iſtorū arcuum, atqui data aſcēſ. obliqua excedit minorem horum arelium numerorū 1.gr.8.m. ſive 68.m. quare ut partem proportionalem veneris, hoc modo argumentaberis, 85 minuta dant 60. m quid dabunt 68.m. invenies autem 48 m Porro aſcenſioni obliquæ 267 gr.2.m. reſpondet in tabula o.grad. ♐. Vnde facile intelligitur aſc. datæ 268. gr. 10.m. reſpondere o. gr. 48.m. ♐.

*Quod ſi latitudo regionis non conſtet e ſolis gradibus plus erit laboris,*

Verbi gratia.

[ In latitudine 53. gr. 20. m. detur eadem aſc, obliqua 268. gr. 10.m. quæritur punctum eclipticæ, quod datæ aſcenſ. debetur. primum juxta monſtratam viam reperio in latitudine regionis 53. gr, datæ aſcenſ. convenire o gr 48.m. Sagitt. Deinde ſimiliter in latitudine 54.gr. congruere 29 gr. 57. ſcorp. ac differentia horum arcuum zodiaci eſt 51. min. quæ debetur tota uni gradui latitudinis. Sic ergo colloca 60. ſcrupulis latitudinis congruunt 51. m. ſcrupula zodiaci, quot congruunt ſcrupul. 20. m. latitudinis, invenies autem 17.m. auferenda a o. gr. 48. m. Sagitt. priori arcu zodiaci (quia ad poſteriorem latitudinem aſcenſiones decreſcunt). Ideoque aſcenſ. obliqua data 268. gr. 10.m. competit parti eclipticæ o.gr. 31. m. Sagitt. in latitudine regionis 53.gr. 20 m.

6. Data

6 Data deſcenſione obliqua: arcum ecliptiticæ ei competentem in propoſita regione inquirere.

*Ipſi deſcenſioni data ſemicirculum, id eſt, 180. gr. adde, & aggregato, tanquam aſcenſioni obliquæ, arcum eclipticæ computa, ſecundum modum jam nunc traditum, a quo arcu eclipticæ ſemicirculum, videlicet ſex ſigna, auferto: quod enim relinquitur, erit arcus eclipticæ quem petebas.*

Sequuntur Tabulæ.

| | Elevatio | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m | g. | m. | g. | m. |
| | 1 | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 4 | 0 | 5 | 0 | 6 | 0 | 7 | 0 | 8 |
| | 2 | 0 | 2 | 0 | 4 | 0 | 6 | 0 | 8 | 0 | 10 | 0 | 13 | 0 | 15 | 0 | 17 |
| | 3 | 0 | 3 | 0 | 6 | 0 | 9 | 0 | 13 | 0 | 16 | 0 | 19 | 0 | 22 | 0 | 25 |
| | 4 | 0 | 4 | 0 | 8 | 0 | 13 | 0 | 17 | 0 | 21 | 0 | 25 | 0 | 30 | 0 | 34 |
| | 5 | 0 | 5 | 0 | 10 | 0 | 16 | 0 | 21 | 0 | 26 | 0 | 32 | 0 | 73 | 0 | 42 |
| | 6 | 0 | 6 | 0 | 13 | 0 | 19 | 0 | 25 | 0 | 32 | 0 | 38 | 0 | 44 | 0 | 51 |
| | 7 | 0 | 7 | 0 | 15 | 0 | 22 | 0 | 30 | 0 | 37 | 0 | 44 | 0 | 52 | 0 | 59 |
| | 8 | 0 | 8 | 0 | 17 | 0 | 25 | 0 | 34 | 0 | 42 | 0 | 51 | 0 | 59 | 1 | 8 |
| | 9 | 0 | 9 | 0 | 19 | 0 | 29 | 0 | 38 | 0 | 48 | 0 | 57 | 1 | 7 | 1 | 16 |
| De- | 10 | 0 | 11 | 0 | 21 | 0 | 32 | 0 | 42 | 0 | 53 | 1 | 4 | 1 | 14 | 1 | 25 |
| cli- | 11 | 0 | 12 | 0 | 23 | 0 | 35 | 0 | 47 | 0 | 58 | 1 | 10 | 1 | 22 | 1 | 34 |
| na- | 12 | 0 | 13 | 0 | 25 | 0 | 38 | 0 | 51 | 1 | 4 | 1 | 17 | 1 | 30 | 1 | 43 |
| tio ſtel- | 13 | 0 | 14 | 0 | 28 | 0 | 42 | 0 | 56 | 1 | 9 | 1 | 23 | 1 | 37 | 1 | 52 |
| læ. | 14 | 0 | 15 | 0 | 30 | 0 | 45 | 1 | 0 | 1 | 15 | 1 | 30 | 1 | 45 | 2 | 1 |
| | 15 | 0 | 16 | 0 | 32 | 0 | 48 | 1 | 4 | 1 | 21 | 1 | 37 | 1 | 53 | 2 | 10 |
| | 16 | 0 | 17 | 0 | 34 | 0 | 52 | 1 | 9 | 1 | 26 | 1 | 44 | 2 | 1 | 2 | 19 |
| | 17 | 0 | 18 | 0 | 37 | 0 | 55 | 1 | 14 | 1 | 32 | 1 | 50 | 2 | 9 | 2 | 28 |
| | 18 | 0 | 19 | 0 | 39 | 0 | 59 | 1 | 18 | 1 | 38 | 1 | 57 | 2 | 17 | 2 | 37 |
| | 19 | 0 | 21 | 0 | 41 | 1 | 2 | 1 | 23 | 1 | 44 | 2 | 4 | 2 | 25 | 2 | 46 |
| | 20 | 0 | 22 | 0 | 44 | 1 | 6 | 1 | 27 | 1 | 49 | 2 | 12 | 2 | 34 | 2 | 56 |
| | 21 | 0 | 23 | 0 | 46 | 1 | 9 | 1 | 32 | 1 | 55 | 2 | 19 | 2 | 42 | 3 | 6 |
| | 22 | 0 | 24 | 0 | 49 | 1 | 13 | 1 | 37 | 2 | 2 | 2 | 26 | 2 | 51 | 3 | 15 |
| | 23 | 0 | 25 | 0 | 51 | 1 | 17 | 1 | 42 | 2 | 8 | 2 | 33 | 2 | 59 | 3 | 25 |
| | 24 | 0 | 27 | 0 | 53 | 1 | 20 | 1 | 47 | 2 | 14 | 2 | 41 | 3 | 8 | 3 | 35 |
| | 25 | 0 | 28 | 0 | 56 | 1 | 24 | 1 | 52 | 2 | 20 | 2 | 49 | 3 | 17 | 3 | 45 |
| | 26 | 0 | 29 | 0 | 59 | 1 | 28 | 1 | 57 | 2 | 27 | 2 | 50 | 3 | 26 | 3 | 56 |
| | 27 | 0 | 31 | 1 | 1 | 1 | 32 | 2 | 3 | 2 | 33 | 3 | 4 | 3 | 35 | 4 | 6 |
| | 28 | 0 | 32 | 1 | 4 | 1 | 36 | 2 | 8 | 2 | 40 | 3 | 12 | 3 | 45 | 4 | 17 |
| | 29 | 0 | 33 | 1 | 7 | 1 | 40 | 2 | 13 | 2 | 47 | 3 | 20 | 3 | 54 | 4 | 28 |
| | 30 | 0 | 35 | 1 | 9 | 1 | 44 | 2 | 19 | 2 | 54 | 3 | 29 | 4 | 4 | 4 | 39 |
| | 31 | 0 | 36 | 1 | 12 | 1 | 48 | 2 | 24 | 3 | 1 | 3 | 37 | 4 | 14 | 4 | 51 |
| | 32 | 0 | 37 | 1 | 15 | 1 | 53 | 2 | 30 | 3 | 8 | 3 | 46 | 4 | 24 | 5 | 2 |

| | | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Poli |
|---|---|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g.m. | g. m. | g. m. | g. m. | |
| 1 | | 0 9 | 0 11 | 0 12 | 0 13 | 0 14 | 0 15 | 0 16 | |
| 2 | | 0 19 | 0 21 | 0 23 | 0 25 | 0 28 | 0 30 | 0 32 | |
| 3 | | 0 29 | 0 23 | 0 35 | 0 38 | 0 42 | 0 45 | 0 48 | |
| 4 | | 0 38 | 0 42 | 0 47 | 0 51 | 0 56 | 1 0 | 1 4 | |
| 5 | | 0 48 | 0 53 | 0 58 | 1 4 | 1 9 | 1 15 | 1 21 | |
| 6 | | 0 57 | 1 4 | 1 10 | 1 17 | 1 23 | 1 30 | 1 37 | |
| 7 | | 1 7 | 1 14 | 1 22 | 1 30 | 1 37 | 1 45 | 1 53 | |
| 8 | | 1 16 | 1 25 | 1 34 | 1 43 | 1 52 | 2 0 | 2 9 | |
| 9 | | 1 26 | 1 36 | 1 46 | 1 56 | 2 6 | 2 16 | 2 26 | |
| 10 | | 1 36 | 1 47 | 1 58 | 2 9 | 2 20 | 2 31 | 2 42 | |
| 11 | | 1 46 | 1 58 | 2 10 | 2 22 | 2 34 | 2 47 | 2 59 | |
| 12 | | 1 56 | 2 9 | 2 22 | 2 35 | 2 49 | 3 2 | 3 16 | |
| 13 | | 2 6 | 2 20 | 2 34 | 2 49 | 3 3 | 3 18 | 3 33 | |
| 14 | | 2 16 | 2 31 | 2 47 | 3 2 | 3 18 | 3 34 | 3 50 | |
| 15 | | 2 26 | 2 42 | 2 59 | 3 16 | 3 33 | 3 50 | 4 7 | |
| 16 | | 2 36 | 2 54 | 3 12 | 3 30 | 3 48 | 4 6 | 4 24 | |
| 17 | | 2 47 | 3 5 | 3 24 | 3 44 | 4 3 | 4 22 | 4 42 | |
| 18 | | 2 57 | 3 17 | 3 37 | 3 58 | 4 18 | 4 35 | 5 0 | |
| 19 | | 3 8 | 3 29 | 3 50 | 4 12 | 4 34 | 4 55 | 5 18 | |
| 20 | | 3 18 | 3 41 | 4 3 | 4 26 | 4 49 | 5 12 | 5 36 | |
| 21 | | 3 29 | 3 53 | 4 17 | 4 41 | 5 5 | 5 29 | 5 54 | |
| 22 | | 3 40 | 4 5 | 4 30 | 4 56 | 5 21 | 5 46 | 6 13 | |
| 23 | | 3 51 | 4 18 | 4 44 | 5 11 | 5 37 | 6 4 | 6 32 | |
| 24 | | 4 2 | 4 30 | 4 58 | 5 26 | 5 54 | 6 22 | 6 51 | |
| 25 | | 4 14 | 4 43 | 5 12 | 5 41 | 6 11 | 6 41 | 7 11 | |
| 26 | | 4 26 | 4 56 | 5 26 | 5 57 | 6 28 | 6 59 | 7 31 | |
| 27 | | 4 38 | 5 9 | 5 41 | 6 13 | 6 45 | 7 18 | 7 51 | |
| 28 | | 4 50 | 5 23 | 5 56 | 6 29 | 7 3 | 7 37 | 8 11 | |
| 29 | | 5 2 | 5 37 | 6 11 | 6 46 | 7 21 | 7 57 | 8 32 | |
| 30 | | 5 15 | 5 51 | 6 27 | 7 3 | 7 40 | 8 17 | 8 54 | |
| 31 | | 5 28 | 6 5 | 6 43 | 7 20 | 7 58 | 8 37 | 9 16 | |
| 32 | | 5 41 | 6 20 | 6 59 | 7 38 | 8 18 | 8 58 | 9 38 | |

| Elevatio | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | 22 | | 23 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m | g. | m. | g. | m. |
| 1 | 0 | 17 | 0 | 18 | 0 | 19 | 0 | 21 | 0 | 22 | 0 | 23 | 0 | 24 | 0 | 25 |
| 2 | 0 | 34 | 0 | 37 | 0 | 39 | 0 | 41 | 0 | 44 | 0 | 46 | 0 | 49 | 0 | 51 |
| 3 | 0 | 52 | 0 | 55 | 0 | 59 | 1 | 2 | 1 | 6 | 1 | 9 | 1 | 13 | 1 | 17 |
| 4 | 1 | 9 | 1 | 14 | 1 | 18 | 1 | 23 | 1 | 27 | 1 | 32 | 1 | 37 | 1 | 42 |
| 5 | 1 | 16 | 1 | 32 | 1 | 38 | 1 | 44 | 1 | 49 | 1 | 55 | 2 | 2 | 2 | 8 |
| 6 | 1 | 44 | 1 | 50 | 1 | 57 | 2 | 4 | 2 | 12 | 2 | 19 | 2 | 26 | 2 | 33 |
| 7 | 2 | 1 | 2 | 9 | 2 | 17 | 2 | 25 | 2 | 34 | 2 | 42 | 2 | 51 | 2 | 59 |
| 8 | 2 | 19 | 2 | 28 | 2 | 37 | 2 | 46 | 2 | 56 | 3 | 6 | 3 | 15 | 3 | 25 |
| 9 | 2 | 36 | 2 | 47 | 2 | 57 | 3 | 8 | 3 | 18 | 3 | 29 | 3 | 40 | 3 | 51 |
| De 10 | 2 | 54 | 3 | 5 | 3 | 17 | 3 | 29 | 3 | 41 | 3 | 53 | 4 | 5 | 4 | 18 |
| cli- 11 | 3 | 12 | 3 | 24 | 3 | 37 | 3 | 50 | 4 | 3 | 4 | 17 | 4 | 30 | 4 | 44 |
| na 12 | 3 | 30 | 3 | 44 | 3 | 58 | 4 | 12 | 4 | 26 | 4 | 41 | 4 | 56 | 5 | 11 |
| tio ſtel. 13 | 3 | 48 | 4 | 3 | 4 | 18 | 4 | 34 | 4 | 49 | 5 | 5 | 5 | 21 | 5 | 38 |
| læ. 14 | 4 | 6 | 4 | 22 | 4 | 39 | 4 | 55 | 5 | 12 | 5 | 30 | 5 | 47 | 6 | 5 |
| 15 | 4 | 24 | 4 | 42 | 5 | 0 | 5 | 18 | 5 | 36 | 5 | 54 | 6 | 13 | 6 | 32 |
| 16 | 4 | 43 | 5 | 2 | 5 | 21 | 5 | 40 | 5 | 59 | 6 | 19 | 6 | 39 | 6 | 59 |
| 17 | 5 | 2 | 5 | 22 | 5 | 42 | 6 | 2 | 6 | 23 | 6 | 44 | 7 | 6 | 7 | 27 |
| 18 | 5 | 21 | 5 | 42 | 6 | 4 | 6 | 25 | 6 | 47 | 7 | 10 | 7 | 33 | 7 | 56 |
| 19 | 5 | 40 | 6 | 3 | 6 | 25 | 6 | 49 | 7 | 12 | 7 | 36 | 8 | 0 | 8 | 24 |
| 20 | 5 | 59 | 6 | 23 | 6 | 47 | 7 | 12 | 7 | 37 | 8 | 2 | 8 | 27 | 8 | 53 |
| 21 | 6 | 19 | 6 | 44 | 7 | 10 | 7 | 36 | 8 | 2 | 8 | 28 | 8 | 55 | 9 | 23 |
| 22 | 6 | 39 | 7 | 6 | 7 | 33 | 8 | 0 | 8 | 27 | 8 | 55 | 9 | 24 | 9 | 53 |
| 23 | 6 | 59 | 7 | 27 | 7 | 56 | 8 | 24 | 8 | 53 | 9 | 22 | 9 | 53 | 10 | 23 |
| 24 | 7 | 20 | 7 | 49 | 8 | 19 | 8 | 49 | 9 | 19 | 9 | 50 | 10 | 22 | 10 | 54 |
| 25 | 7 | 41 | 8 | 12 | 8 | 43 | 9 | 14 | 9 | 46 | 10 | 19 | 10 | 52 | 11 | 25 |
| 26 | 8 | 2 | 8 | 35 | 9 | 7 | 9 | 40 | 10 | 14 | 10 | 47 | 11 | 22 | 11 | 57 |
| 27 | 8 | 24 | 8 | 58 | 9 | 32 | 10 | 6 | 10 | 41 | 11 | 17 | 11 | 53 | 12 | 30 |
| 28 | 8 | 46 | 9 | 21 | 9 | 57 | 10 | 33 | 11 | 9 | 11 | 47 | 12 | 24 | 13 | 3 |
| 29 | 9 | 9 | 9 | 45 | 10 | 23 | 11 | 0 | 11 | 38 | 12 | 17 | 12 | 56 | 13 | 37 |
| 30 | 9 | 32 | 10 | 10 | 10 | 49 | 11 | 28 | 12 | 8 | 12 | 48 | 13 | 29 | 14 | 11 |
| 31 | 9 | 55 | 10 | 35 | 11 | 16 | 11 | 56 | 12 | 38 | 13 | 20 | 14 | 3 | 14 | 47 |
| 32 | 10 | 19 | 11 | 1 | 11 | 43 | 12 | 25 | 13 | 9 | 13 | 53 | 14 | 37 | 15 | 23 |

| | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Poli |
|---|---|---|---|---|---|---|---|---|
| G | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | 0 27 | 0 28 | 0 29 | 0 31 | 0 32 | 0 33 | 0 35 | |
| 2 | 0 53 | 0 56 | 0 59 | 1 1 | 1 4 | 1 7 | 1 9 | |
| 3 | 1 20 | 1 24 | 1 28 | 1 32 | 1 36 | 1 40 | 1 44 | |
| 4 | 1 47 | 1 52 | 1 57 | 2 3 | 2 8 | 2 13 | 2 19 | |
| 5 | 2 14 | 2 20 | 2 27 | 2 33 | 2 40 | 2 47 | 2 54 | |
| 6 | 2 41 | 2 49 | 2 56 | 3 4 | 3 12 | 3 20 | 3 29 | |
| 7 | 3 8 | 3 17 | 3 26 | 3 35 | 3 45 | 3 54 | 4 4 | |
| 8 | 3 35 | 3 45 | 3 56 | 4 6 | 4 17 | 4 28 | 4 39 | |
| 9 | 4 3 | 4 14 | 4 26 | 4 38 | 4 50 | 5 2 | 5 15 | |
| 10 | 4 30 | 4 43 | 4 56 | 5 9 | 5 23 | 5 37 | 5 51 | |
| 11 | 4 58 | 5 12 | 5 26 | 5 41 | 5 56 | 6 11 | 6 27 | |
| 12 | 5 26 | 5 41 | 5 57 | 6 13 | 6 29 | 6 46 | 7 3 | |
| 13 | 5 54 | 6 11 | 6 28 | 6 45 | 7 3 | 7 21 | 7 40 | |
| 14 | 6 22 | 6 41 | 6 59 | 7 18 | 7 37 | 7 56 | 8 17 | |
| 15 | 6 51 | 7 11 | 7 31 | 7 51 | 8 11 | 8 32 | 8 54 | |
| 16 | 7 20 | 7 41 | 8 3 | 8 24 | 8 46 | 9 8 | 9 31 | |
| 17 | 7 49 | 8 12 | 8 35 | 8 58 | 9 21 | 9 45 | 10 10 | |
| 18 | 8 19 | 8 43 | 9 7 | 9 32 | 9 57 | 10 23 | 10 49 | |
| 19 | 8 49 | 9 14 | 9 40 | 10 6 | 10 33 | 11 0 | 11 28 | |
| 20 | 9 19 | 9 46 | 10 13 | 10 41 | 11 9 | 11 38 | 12 8 | |
| 21 | 9 50 | 10 19 | 10 47 | 11 17 | 11 46 | 12 17 | 12 48 | |
| 22 | 10 22 | 10 52 | 11 22 | 11 53 | 12 24 | 12 56 | 13 29 | |
| 23 | 10 54 | 11 25 | 11 57 | 12 29 | 13 3 | 13 36 | 14 11 | |
| 24 | 11 26 | 11 59 | 12 33 | 13 7 | 13 42 | 14 17 | 14 54 | |
| 25 | 11 59 | 12 34 | 13 9 | 13 45 | 14 21 | 14 59 | 15 37 | |
| 26 | 12 33 | 13 9 | 13 46 | 14 23 | 15 2 | 15 41 | 16 21 | |
| 27 | 13 7 | 13 45 | 14 23 | 15 3 | 15 43 | 16 24 | 17 6 | |
| 28 | 13 42 | 14 21 | 15 2 | 15 43 | 16 25 | 17 8 | 17 53 | |
| 29 | 14 17 | 14 59 | 15 41 | 16 24 | 17 8 | 17 54 | 18 40 | |
| 30 | 14 54 | 15 37 | 16 21 | 17 6 | 17 53 | 18 40 | 19 28 | |
| 31 | 15 31 | 16 16 | 17 2 | 17 50 | 18 38 | 19 27 | 20 18 | |
| 32 | 16 9 | 16 56 | 17 45 | 18 34 | 19 24 | 20 16 | 21 9 | |

De cli na tio ſtel læ.

| Elevatio | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | | 38 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 1 | 0 | 36 | 0 | 37 | 0 | 39 | 0 | 40 | 0 | 42 | 0 | 44 | 0 | 45 | 0 | 47 |
| 2 | 1 | 12 | 1 | 15 | 1 | 18 | 1 | 21 | 1 | 24 | 1 | 27 | 1 | 30 | 1 | 34 |
| 3 | 1 | 48 | 1 | 53 | 1 | 57 | 2 | 2 | 2 | 6 | 2 | 11 | 2 | 16 | 2 | 21 |
| 4 | 2 | 24 | 2 | 30 | 2 | 36 | 2 | 42 | 2 | 48 | 2 | 55 | 3 | 1 | 3 | 8 |
| 5 | 3 | 1 | 3 | 8 | 3 | 15 | 3 | 23 | 3 | 31 | 3 | 39 | 3 | 47 | 3 | 55 |
| 6 | 3 | 37 | 3 | 46 | 3 | 55 | 4 | 4 | 4 | 13 | 4 | 28 | 4 | 33 | 4 | 43 |
| 7 | 4 | 14 | 4 | 24 | 4 | 34 | 4 | 45 | 4 | 56 | 5 | 7 | 5 | 19 | 5 | 30 |
| 8 | 4 | 51 | 5 | 2 | 5 | 14 | 5 | 26 | 5 | 39 | 5 | 52 | 6 | 5 | 6 | 18 |
| 9 | 5 | 28 | 5 | 41 | 5 | 54 | 6 | 8 | 6 | 22 | 6 | 36 | 6 | 51 | 7 | 6 |
| 10 | 6 | 5 | 6 | 20 | 6 | 35 | 6 | 50 | 7 | 6 | 7 | 22 | 7 | 38 | 7 | 55 |
| 11 | 6 | 42 | 6 | 59 | 7 | 15 | 7 | 32 | 7 | 50 | 8 | 7 | 8 | 25 | 8 | 44 |
| 12 | 7 | 20 | 7 | 38 | 7 | 56 | 8 | 15 | 8 | 34 | 8 | 53 | 9 | 13 | 9 | 34 |
| 13 | 7 | 58 | 8 | 18 | 8 | 38 | 8 | 58 | 9 | 18 | 9 | 35 | 10 | 1 | 10 | 24 |
| 14 | 8 | 37 | 8 | 58 | 9 | 19 | 9 | 41 | 10 | 3 | 10 | 26 | 10 | 50 | 11 | 14 |
| 15 | 9 | 16 | 9 | 38 | 10 | 1 | 10 | 25 | 10 | 49 | 11 | 14 | 11 | 35 | 12 | 5 |
| 16 | 9 | 55 | 10 | 19 | 10 | 44 | 11 | 9 | 11 | 31 | 12 | 2 | 12 | 29 | 12 | 57 |
| 17 | 10 | 35 | 11 | 1 | 11 | 27 | 11 | 54 | 12 | 22 | 12 | 50 | 13 | 19 | 13 | 49 |
| 18 | 11 | 16 | 11 | 43 | 12 | 11 | 12 | 40 | 13 | 9 | 13 | 39 | 14 | 10 | 14 | 42 |
| 19 | 11 | 57 | 12 | 25 | 12 | 55 | 13 | 26 | 13 | 57 | 14 | 23 | 15 | 2 | 15 | 36 |
| 20 | 12 | 38 | 13 | 9 | 13 | 40 | 14 | 13 | 14 | 46 | 15 | 20 | 15 | 55 | 16 | 31 |
| 21 | 13 | 20 | 13 | 53 | 14 | 26 | 15 | 0 | 15 | 36 | 16 | 12 | 16 | 49 | 17 | 27 |
| 22 | 14 | 3 | 14 | 37 | 15 | 13 | 15 | 49 | 16 | 27 | 17 | 5 | 17 | 44 | 18 | 24 |
| 23 | 14 | 47 | 15 | 23 | 16 | 0 | 16 | 38 | 17 | 18 | 17 | 58 | 18 | 39 | 19 | 22 |
| 24 | 15 | 31 | 16 | 9 | 16 | 48 | 17 | 29 | 18 | 10 | 18 | 52 | 19 | 36 | 20 | 21 |
| 25 | 16 | 16 | 16 | 56 | 17 | 38 | 18 | 20 | 19 | 3 | 19 | 48 | 20 | 34 | 21 | 22 |
| 26 | 17 | 3 | 17 | 45 | 18 | 28 | 19 | 12 | 19 | 58 | 20 | 45 | 21 | 34 | 22 | 24 |
| 27 | 17 | 50 | 18 | 34 | 19 | 19 | 20 | 6 | 20 | 54 | 21 | 43 | 22 | 35 | 23 | 28 |
| 28 | 18 | 38 | 19 | 24 | 20 | 12 | 21 | 1 | 21 | 51 | 22 | 43 | 23 | 37 | 24 | 33 |
| 29 | 19 | 27 | 20 | 16 | 21 | 6 | 21 | 57 | 22 | 50 | 23 | 45 | 24 | 41 | 25 | 40 |
| 30 | 20 | 18 | 21 | 9 | 22 | 1 | 22 | 55 | 23 | 51 | 24 | 48 | 25 | 47 | 26 | 49 |
| 31 | 21 | 10 | 22 | 3 | 22 | 58 | 23 | 55 | 24 | 53 | 25 | 53 | 26 | 55 | 28 | 0 |
| 32 | 22 | 3 | 22 | 59 | 23 | 56 | 24 | 56 | 25 | 57 | 27 | 0 | 28 | 5 | 29 | 13 |

| ' | | 39 | 40 | 41 | 42 | 43 | 44 | 45 | Poli |
|---|---|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | | 0 49 | 0 50 | 0 52 | 0 54 | 0 56 | 0 58 | 1 0 | |
| 2 | | 1 37 | 1 41 | 1 44 | 1 48 | 1 52 | 1 56 | 1 0 | |
| 3 | | 2 26 | 2 31 | 2 37 | 2 42 | 2 48 | 2 54 | 3 0 | |
| 4 | | 3 15 | 3 22 | 3 29 | 3 37 | 3 4 | 3 52 | 4 1 | |
| 5 | | 4 4 | 4 13 | 4 22 | 4 31 | 4 41 | 4 51 | 5 1 | |
| 6 | | 4 53 | 5 4 | 5 15 | 5 26 | 5 37 | 5 50 | 6 2 | |
| 7 | | 5 42 | 5 55 | 6 8 | 6 21 | 6 34 | 6 49 | 7 3 | |
| 8 | | 6 32 | 6 46 | 7 1 | 7 16 | 7 32 | 7 48 | 8 5 | |
| 9 | | 7 22 | 7 38 | 7 55 | 8 12 | 8 30 | 8 48 | 9 7 | |
| 10 | | 8 13 | 8 30 | 8 49 | 9 8 | 9 28 | 9 48 | 10 9 | |
| 11 | | 9 4 | 9 23 | 9 44 | 10 5 | 10 27 | 10 49 | 11 12 | |
| 12 | | 9 55 | 10 16 | 10 39 | 11 2 | 11 20 | 11 51 | 12 16 | |
| 13 | | 10 46 | 11 10 | 11 35 | 12 0 | 12 26 | 12 53 | 13 21 | |
| 14 | | 11 39 | 12 5 | 12 31 | 12 58 | 13 27 | 13 56 | 14 26 | |
| 15 | | 12 32 | 13 0 | 13 28 | 13 58 | 14 28 | 15 0 | 15 32 | |
| 16 | | 13 26 | 13 55 | 14 26 | 14 58 | 15 31 | 16 5 | 16 40 | |
| 17 | | 14 20 | 14 52 | 15 25 | 15 59 | 16 34 | 17 10 | 17 48 | |
| 18 | | 15 15 | 15 49 | 16 24 | 17 1 | 17 38 | 18 17 | 18 58 | |
| 19 | | 16 11 | 16 48 | 17 25 | 18 4 | 18 41 | 19 25 | 20 9 | |
| 20 | | 17 8 | 17 47 | 18 27 | 19 8 | 19 50 | 20 35 | 21 22 | |
| 21 | | 18 7 | 18 47 | 19 30 | 20 13 | 20 59 | 21 46 | 22 35 | |
| 22 | | 19 6 | 19 49 | 20 34 | 21 20 | 22 8 | 22 58 | 23 50 | |
| 23 | | 20 6 | 20 52 | 21 39 | 22 28 | 23 19 | 24 12 | 25 7 | |
| 24 | | 21 8 | 21 56 | 22 46 | 23 38 | 24 32 | 25 28 | 26 26 | |
| 25 | | 22 11 | 23 2 | 23 55 | 24 50 | 25 47 | 26 46 | 27 48 | |
| 26 | | 23 16 | 24 9 | 25 5 | 26 3 | 27 3 | 28 6 | 29 12 | |
| 27 | | 24 22 | 25 19 | 26 17 | 27 18 | 28 22 | 29 29 | 30 38 | |
| 28 | | 25 30 | 26 30 | 27 31 | 28 36 | 29 44 | 30 54 | 32 7 | |
| 29 | | 26 40 | 27 43 | 28 48 | 29 55 | 31 8 | 32 22 | 33 40 | |
| 30 | | 27 52 | 28 59 | 30 7 | 31 19 | 32 35 | 33 53 | 35 16 | |
| 31 | | 39 7 | 30 17 | 31 29 | 32 45 | 34 5 | 25 28 | 36 56 | |
| 32 | | 30 24 | 31 38 | 32 54 | 34 14 | 35 38 | 37 7 | 38 40 | |

Declinatio ſtellæ.

| Elevatio | 46 | | 47 | | 48 | | 49 | | 50 | | 51 | | 52 | | 53 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 1 | 1 | 2 | 1 | 4 | 1 | 7 | 1 | 9 | 1 | 12 | 1 | 14 | 1 | 17 | 1 | 20 |
| 2 | 2 | 4 | 2 | 9 | 2 | 13 | 2 | 18 | 2 | 23 | 2 | 28 | 2 | 34 | 2 | 39 |
| 3 | 3 | 7 | 3 | 13 | 3 | 20 | 3 | 27 | 3 | 35 | 3 | 43 | 3 | 51 | 3 | 59 |
| 4 | 4 | 9 | 4 | 18 | 4 | 27 | 4 | 37 | 4 | 47 | 4 | 57 | 5 | 8 | 5 | 19 |
| 5 | 5 | 12 | 5 | 23 | 5 | 35 | 5 | 47 | 5 | 59 | 6 | 12 | 6 | 26 | 6 | 40 |
| 6 | 6 | 15 | 6 | 28 | 6 | 42 | 6 | 57 | 7 | 12 | 7 | 27 | 7 | 44 | 8 | 1 |
| 7 | 7 | 18 | 7 | 34 | 7 | 50 | 8 | 7 | 8 | 25 | 8 | 43 | 9 | 2 | 9 | 23 |
| 8 | 8 | 22 | 8 | 40 | 8 | 59 | 9 | 18 | 9 | 38 | 10 | 0 | 10 | 22 | 10 | 45 |
| 9 | 9 | 26 | 9 | 47 | 10 | 8 | 10 | 30 | 10 | 53 | 11 | 17 | 11 | 42 | 12 | 8 |
| 10 | 10 | 31 | 10 | 54 | 11 | 18 | 11 | 42 | 12 | 8 | 12 | 35 | 13 | 3 | 13 | 32 |
| 11 | 11 | 37 | 12 | 2 | 12 | 28 | 12 | 55 | 13 | 24 | 13 | 53 | 14 | 24 | 14 | 57 |
| 12 | 12 | 43 | 13 | 11 | 13 | 39 | 14 | 9 | 14 | 40 | 15 | 13 | 15 | 47 | 16 | 23 |
| 13 | 13 | 50 | 14 | 20 | 14 | 51 | 15 | 24 | 15 | 58 | 16 | 34 | 17 | 11 | 17 | 50 |
| 14 | 14 | 58 | 15 | 30 | 16 | 5 | 16 | 40 | 17 | 17 | 17 | 56 | 18 | 37 | 19 | 19 |
| 15 | 16 | 7 | 16 | 42 | 17 | 19 | 17 | 57 | 18 | 37 | 19 | 19 | 20 | 4 | 20 | 50 |
| 16 | 17 | 16 | 17 | 54 | 18 | 34 | 19 | 16 | 19 | 59 | 20 | 44 | 21 | 32 | 22 | 22 |
| 17 | 18 | 27 | 19 | 8 | 19 | 51 | 20 | 36 | 21 | 22 | 22 | 11 | 23 | 2 | 23 | 56 |
| 18 | 19 | 40 | 20 | 23 | 21 | 9 | 21 | 57 | 22 | 47 | 23 | 39 | 24 | 34 | 25 | 33 |
| 19 | 20 | 53 | 21 | 40 | 22 | 29 | 23 | 20 | 24 | 14 | 25 | 10 | 26 | 9 | 27 | 11 |
| 20 | 22 | 8 | 22 | 58 | 23 | 51 | 24 | 45 | 25 | 42 | 26 | 43 | 27 | 46 | 28 | 53 |
| 21 | 23 | 25 | 24 | 18 | 25 | 14 | 26 | 12 | 27 | 14 | 28 | 18 | 29 | 26 | 30 | 37 |
| 22 | 24 | 44 | 25 | 40 | 26 | 40 | 27 | 42 | 28 | 48 | 29 | 56 | 31 | 8 | 32 | 25 |
| 23 | 26 | 5 | 27 | 5 | 28 | 8 | 29 | 14 | 30 | 24 | 31 | 37 | 32 | 54 | 34 | 17 |
| 24 | 27 | 27 | 28 | 31 | 29 | 38 | 30 | 48 | 32 | 3 | 33 | 21 | 34 | 44 | 36 | 13 |
| 25 | 28 | 52 | 30 | 0 | 31 | 12 | 32 | 26 | 33 | 46 | 35 | 10 | 36 | 39 | 38 | 14 |
| 26 | 30 | 20 | 31 | 32 | 32 | 48 | 34 | 8 | 35 | 32 | 37 | 3 | 38 | 38 | 40 | 20 |
| 27 | 31 | 51 | 33 | 7 | 34 | 28 | 35 | 53 | 37 | 23 | 39 | 0 | 40 | 42 | 42 | 33 |
| 28 | 33 | 25 | 34 | 46 | 36 | 12 | 37 | 42 | 39 | 19 | 41 | 2 | 42 | 53 | 44 | 53 |
| 29 | 35 | 2 | 36 | 28 | 38 | 0 | 39 | 37 | 41 | 21 | 43 | 12 | 45 | 12 | 47 | 21 |
| 30 | 36 | 43 | 38 | 15 | 39 | 53 | 41 | 37 | 43 | 29 | 45 | 29 | 47 | 39 | 50 | 1 |
| 31 | 38 | 29 | 40 | 7 | 41 | 52 | 43 | 44 | 45 | 44 | 47 | 54 | 50 | 16 | 52 | 53 |
| 32 | 40 | 19 | 42 | 4 | 43 | 57 | 45 | 57 | 48 | 8 | 50 | 30 | 53 | 7 | 56 | 1 |

| | | 54 | 55 | 56 | 57 | 58 | 59 | 60 | Poli |
|---|---|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | | 1 23 | 1 26 | 1 29 | 1 32 | 1 36 | 1 40 | 1 44 | |
| 2 | | 2 45 | 2 51 | 2 58 | 3 5 | 3 12 | 3 20 | 2 28 | |
| 3 | | 4 8 | 4 17 | 4 27 | 4 38 | 4 49 | 5 0 | 5 12 | |
| 4 | | 5 31 | 5 44 | 5 57 | 6 11 | 6 25 | 6 41 | 6 57 | |
| 5 | | 6 55 | 7 11 | 7 27 | 7 44 | 8 3 | 8 22 | 8 43 | |
| 6 | | 8 19 | 8 38 | 8 58 | 9 19 | 9 41 | 10 4 | 10 29 | |
| 7 | | 9 44 | 10 6 | 10 29 | 10 54 | 11 20 | 11 47 | 12 17 | |
| 8 | | 11 9 | 11 35 | 12 1 | 12 30 | 13 0 | 13 32 | 14 5 | |
| 9 | | 12 35 | 13 4 | 13 35 | 14 7 | 14 41 | 15 17 | 15 55 | |
| 10 | | 14 3 | 14 35 | 15 9 | 15 45 | 16 23 | 17 4 | 17 47 | |
| 11 | | 15 31 | 16 7 | 16 45 | 17 25 | 18 8 | 18 53 | 19 41 | |
| 12 | | 17 1 | 17 40 | 18 22 | 19 6 | 19 53 | 20 43 | 21 36 | |
| 13 | | 18 32 | 19 15 | 20 1 | 20 50 | 21 41 | 22 36 | 23 34 | |
| 14 | | 20 4 | 20 52 | 21 42 | 22 35 | 23 31 | 24 31 | 25 35 | |
| 15 | | 21 38 | 22 30 | 23 24 | 24 22 | 25 23 | 26 29 | 27 39 | |
| 16 | | 23 15 | 24 10 | 25 9 | 26 12 | 27 19 | 28 30 | 29 47 | |
| 17 | | 24 53 | 25 53 | 26 57 | 28 5 | 29 18 | 30 35 | 31 59 | |
| 18 | | 26 34 | 27 39 | 28 48 | 30 1 | 31 20 | 32 44 | 34 19 | |
| 19 | | 28 17 | 29 27 | 30 41 | 32 1 | 33 20 | 34 58 | 36 37 | |
| 20 | | 30 4 | 31 19 | 32 39 | 34 5 | 35 37 | 37 17 | 39 5 | |
| 21 | | 31 54 | 33 15 | 34 41 | 36 14 | 37 54 | 39 42 | 41 40 | |
| 22 | | 33 47 | 35 14 | 36 48 | 38 28 | 40 17 | 42 15 | 44 25 | |
| 23 | | 35 45 | 37 19 | 39 0 | 40 49 | 42 47 | 44 57 | 47 20 | |
| 24 | | 37 48 | 39 29 | 41 18 | 43 17 | 45 26 | 47 49 | 50 27 | |
| 25 | | 39 56 | 41 45 | 43 44 | 45 54 | 48 16 | 50 54 | 53 52 | |
| 26 | | 42 10 | 44 9 | 46 18 | 48 41 | 51 19 | 54 16 | 57 39 | |
| 27 | | 44 32 | 46 41 | 49 4 | 51 41 | 54 38 | 58 0 | 61 57 | |
| 28 | | 47 2 | 49 24 | 52 1 | 54 58 | 58 19 | 62 14 | 67 4 | |
| 29 | | 49 44 | 52 20 | 55 16 | 58 36 | 62 30 | 67 18 | 73 46 | |
| 30 | | 52 37 | 55 32 | 58 52 | 62 45 | 67 31 | 73 55 | 90 0 | |
| 31 | | 55 48 | 59 6 | 62 58 | 67 42 | 74 4 | 90 0 | 90 0 | |
| 32 | | 59 19 | 63 10 | 67 53 | 74 12 | 90 0 | 90 0 | 90 0 | |

| G | | ♈ g. m. | | ♉ g. m. | | ♊ g. m. | | ♋ g. m. | | ♌ g. m. | | ♍ g. m. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0 | 0 | 23 | 39 | 50 | 6 | 80 | 54 | 114 | 30 | 147 | 51 |
| 1 | | 0 | 46 | 24 | 28 | 51 | 4 | 81 | 59 | 115 | 38 | 148 | 57 |
| 2 | | 1 | 32 | 25 | 18 | 52 | 2 | 83 | 5 | 116 | 46 | 150 | 2 |
| 3 | | 2 | 19 | 26 | 8 | 53 | 0 | 84 | 11 | 117 | 54 | 151 | 7 |
| 4 | | 3 | 5 | 26 | 58 | 53 | 58 | 85 | 17 | 119 | 1 | 152 | 12 |
| 5 | | 3 | 52 | 37 | 48 | 54 | 56 | 86 | 23 | 120 | 8 | 153 | 17 |
| 6 | | 4 | 38 | 28 | 39 | 55 | 55 | 87 | 29 | 121 | 16 | 154 | 22 |
| 7 | | 5 | 24 | 29 | 30 | 56 | 54 | 88 | 36 | 122 | 23 | 155 | 27 |
| 8 | | 6 | 11 | 30 | 21 | 57 | 54 | 89 | 43 | 123 | 31 | 156 | 32 |
| 9 | | 6 | 57 | 31 | 12 | 58 | 53 | 90 | 50 | 124 | 38 | 157 | 37 |
| 10 | | 7 | 44 | 32 | 3 | 59 | 53 | 91 | 57 | 125 | 45 | 158 | 41 |
| 11 | | 8 | 30 | 32 | 55 | 60 | 54 | 93 | 4 | 126 | 53 | 159 | 46 |
| 12 | | 9 | 17 | 33 | 47 | 61 | 55 | 94 | 11 | 128 | 0 | 160 | 50 |
| 13 | | 10 | 4 | 34 | 39 | 62 | 56 | 95 | 18 | 129 | 7 | 161 | 54 |
| 14 | | 10 | 51 | 35 | 31 | 63 | 57 | 96 | 25 | 130 | 14 | 162 | 58 |
| 15 | | 11 | 38 | 36 | 23 | 64 | 59 | 97 | 33 | 131 | 21 | 164 | 2 |
| 16 | | 12 | 25 | 37 | 16 | 66 | 1 | 98 | 40 | 132 | 28 | 165 | 6 |
| 17 | | 13 | 12 | 38 | 10 | 67 | 3 | 99 | 48 | 133 | 34 | 166 | 10 |
| 18 | | 14 | 0 | 39 | 3 | 68 | 6 | 100 | 55 | 134 | 41 | 167 | 14 |
| 19 | | 14 | 47 | 39 | 57 | 69 | 8 | 102 | 3 | 135 | 47 | 168 | 18 |
| 20 | | 15 | 35 | 40 | 51 | 70 | 11 | 103 | 11 | 136 | 53 | 169 | 22 |
| 21 | | 16 | 23 | 41 | 45 | 71 | 14 | 104 | 18 | 138 | 0 | 170 | 26 |
| 22 | | 17 | 11 | 42 | 40 | 72 | 18 | 105 | 26 | 139 | 6 | 171 | 30 |
| 23 | | 17 | 59 | 43 | 34 | 73 | 21 | 106 | 34 | 140 | 12 | 172 | 34 |
| 24 | | 18 | 47 | 44 | 29 | 74 | 25 | 107 | 42 | 141 | 18 | 173 | 38 |
| 25 | | 19 | 35 | 45 | 24 | 75 | 29 | 108 | 50 | 142 | 24 | 174 | 42 |
| 26 | | 20 | 23 | 46 | 20 | 76 | 34 | 109 | 58 | 143 | 30 | 175 | 46 |
| 27 | | 21 | 12 | 47 | 16 | 77 | 39 | 111 | 6 | 144 | 35 | 176 | 50 |
| 28 | | 22 | 1 | 48 | 13 | 78 | 44 | 112 | 14 | 145 | 41 | 177 | 53 |
| 29 | | 22 | 50 | 49 | 9 | 79 | 49 | 113 | 22 | 146 | 46 | 178 | 57 |
| 30 | | 23 | 39 | 50 | 6 | 80 | 54 | 114 | 30 | 147 | 51 | 179 | 0 |

| G | ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g. | m. | ♒ g. | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 212 | 9 | 245 | 30 | 279 | 6 | 309 | 54 | 336 | 21 |
| 1 | 181 | 3 | 213 | 14 | 246 | 38 | 280 | 11 | 310 | 51 | 337 | 10 |
| 2 | 182 | 7 | 214 | 19 | 247 | 46 | 281 | 16 | 311 | 47 | 337 | 59 |
| 3 | 183 | 10 | 215 | 25 | 248 | 54 | 282 | 21 | 312 | 44 | 338 | 48 |
| 4 | 184 | 14 | 216 | 30 | 250 | 2 | 283 | 26 | 313 | 40 | 339 | 37 |
| 5 | 185 | 18 | 217 | 36 | 251 | 10 | 284 | 31 | 314 | 36 | 340 | 25 |
| 6 | 186 | 22 | 218 | 42 | 252 | 18 | 285 | 35 | 315 | 31 | 341 | 13 |
| 7 | 187 | 26 | 219 | 48 | 253 | 26 | 286 | 39 | 316 | 26 | 342 | 1 |
| 8 | 188 | 30 | 220 | 54 | 254 | 34 | 287 | 42 | 317 | 20 | 342 | 49 |
| 9 | 189 | 34 | 222 | 0 | 255 | 42 | 288 | 46 | 318 | 15 | 343 | 37 |
| 10 | 190 | 38 | 223 | 7 | 256 | 49 | 289 | 49 | 319 | 9 | 344 | 25 |
| 11 | 191 | 42 | 224 | 13 | 257 | 57 | 290 | 52 | 320 | 3 | 345 | 13 |
| 12 | 192 | 46 | 225 | 19 | 259 | 5 | 291 | 54 | 320 | 57 | 346 | 0 |
| 13 | 193 | 50 | 226 | 26 | 260 | 12 | 292 | 57 | 321 | 50 | 346 | 48 |
| 14 | 194 | 54 | 227 | 32 | 261 | 20 | 293 | 59 | 322 | 44 | 347 | 35 |
| 15 | 195 | 58 | 228 | 39 | 262 | 27 | 295 | 1 | 323 | 37 | 348 | 22 |
| 16 | 197 | 2 | 229 | 46 | 263 | 35 | 296 | 3 | 324 | 29 | 349 | 9 |
| 17 | 198 | 6 | 230 | 53 | 264 | 42 | 297 | 4 | 325 | 21 | 349 | 56 |
| 18 | 199 | 10 | 232 | 0 | 265 | 49 | 298 | 5 | 326 | 13 | 350 | 43 |
| 19 | 200 | 14 | 233 | 7 | 266 | 56 | 299 | 6 | 327 | 5 | 351 | 30 |
| 20 | 201 | 19 | 234 | 15 | 268 | 3 | 300 | 7 | 327 | 57 | 352 | 16 |
| 21 | 202 | 23 | 235 | 22 | 269 | 10 | 301 | 7 | 328 | 48 | 353 | 3 |
| 22 | 203 | 28 | 236 | 29 | 270 | 17 | 302 | 6 | 329 | 39 | 353 | 49 |
| 23 | 204 | 33 | 237 | 37 | 271 | 24 | 303 | 6 | 330 | 30 | 354 | 36 |
| 24 | 205 | 38 | 238 | 44 | 272 | 31 | 304 | 5 | 331 | 21 | 355 | 22 |
| 25 | 206 | 43 | 239 | 52 | 273 | 37 | 305 | 4 | 332 | 12 | 356 | 8 |
| 26 | 207 | 48 | 240 | 59 | 274 | 43 | 306 | 2 | 333 | 2 | 356 | 55 |
| 27 | 208 | 53 | 242 | 7 | 275 | 49 | 307 | 0 | 333 | 52 | 357 | 41 |
| 28 | 209 | 58 | 243 | 14 | 276 | 55 | 307 | 58 | 334 | 42 | 358 | 28 |
| 29 | 211 | 3 | 244 | 22 | 278 | 1 | 308 | 56 | 335 | 32 | 359 | 14 |
| 30 | 212 | 9 | 245 | 30 | 279 | 6 | 309 | 54 | 336 | 21 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 |
| 1 | | 0 | 45 | 24 | 14 | 50 | 38 | 81 | 29 | 115 | 13 | 148 | 43 |
| 2 | | 1 | 31 | 25 | 3 | 51 | 36 | 82 | 35 | 116 | 21 | 149 | 49 |
| 3 | | 2 | 17 | 25 | 52 | 52 | 34 | 83 | 41 | 117 | 29 | 150 | 54 |
| 4 | | 3 | 3 | 26 | 41 | 53 | 32 | 84 | 47 | 118 | 37 | 152 | 0 |
| 5 | | 3 | 49 | 27 | 31 | 54 | 30 | 85 | 53 | 119 | 45 | 153 | 5 |
| 6 | | 4 | 35 | 28 | 21 | 55 | 29 | 86 | 59 | 120 | 53 | 154 | 11 |
| 7 | | 5 | 21 | 29 | 11 | 56 | 28 | 88 | 6 | 122 | 1 | 155 | 16 |
| 8 | | 6 | 7 | 30 | 2 | 57 | 27 | 89 | 13 | 123 | 8 | 156 | 21 |
| 9 | | 6 | 53 | 30 | 53 | 58 | 26 | 90 | 20 | 124 | 16 | 157 | 26 |
| 10 | | 7 | 39 | 31 | 44 | 59 | 26 | 91 | 27 | 125 | 23 | 158 | 31 |
| 11 | | 8 | 25 | 32 | 35 | 60 | 26 | 92 | 34 | 126 | 31 | 159 | 36 |
| 12 | | 9 | 11 | 33 | 26 | 61 | 27 | 93 | 41 | 127 | 38 | 160 | 41 |
| 13 | | 9 | 58 | 34 | 18 | 62 | 28 | 94 | 49 | 128 | 46 | 161 | 46 |
| 14 | | 10 | 44 | 35 | 10 | 63 | 29 | 95 | 56 | 129 | 53 | 162 | 51 |
| 15 | | 11 | 31 | 36 | 2 | 64 | 30 | 97 | 4 | 131 | 0 | 163 | 55 |
| 16 | | 12 | 17 | 36 | 55 | 65 | 32 | 98 | 12 | 132 | 7 | 165 | 0 |
| 17 | | 13 | 4 | 37 | 48 | 66 | 34 | 99 | 20 | 133 | 14 | 166 | 4 |
| 18 | | 13 | 51 | 38 | 41 | 67 | 36 | 100 | 28 | 134 | 21 | 167 | 9 |
| 19 | | 14 | 38 | 39 | 35 | 68 | 38 | 101 | 36 | 135 | 28 | 168 | 13 |
| 20 | | 15 | 25 | 40 | 29 | 69 | 41 | 102 | 44 | 136 | 34 | 169 | 17 |
| 21 | | 16 | 12 | 41 | 23 | 70 | 44 | 103 | 52 | 137 | 41 | 170 | 22 |
| 22 | | 17 | 0 | 42 | 27 | 71 | 47 | 105 | 0 | 138 | 48 | 171 | 26 |
| 23 | | 17 | 47 | 43 | 11 | 72 | 51 | 106 | 8 | 139 | 54 | 172 | 31 |
| 24 | | 18 | 35 | 44 | 6 | 73 | 55 | 107 | 16 | 141 | 1 | 173 | 35 |
| 25 | | 10 | 23 | 45 | 1 | 74 | 59 | 108 | 24 | 142 | 7 | 174 | 39 |
| 26 | | 20 | 11 | 45 | 56 | 76 | 3 | 109 | 32 | 143 | 13 | 175 | 44 |
| 27 | | 20 | 59 | 46 | 52 | 77 | 8 | 110 | 40 | 144 | 19 | 176 | 48 |
| 28 | | 21 | 48 | 47 | 48 | 78 | 13 | 111 | 48 | 145 | 25 | 177 | 52 |
| 29 | | 22 | 36 | 48 | 44 | 79 | 18 | 112 | 56 | 146 | 31 | 178 | 56 |
| 30 | | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 |
| 1 | 181 | 4 | 213 | 29 | 247 | 4 | 280 | 42 | 311 | 16 | 337 | 24 |
| 2 | 182 | 8 | 214 | 35 | 248 | 12 | 281 | 47 | 312 | 12 | 338 | 12 |
| 3 | 183 | 12 | 215 | 41 | 249 | 20 | 282 | 52 | 313 | 8 | 339 | 1 |
| 4 | 184 | 16 | 216 | 47 | 250 | 28 | 283 | 57 | 314 | 4 | 339 | 49 |
| 5 | 185 | 21 | 217 | 53 | 251 | 36 | 285 | 1 | 314 | 59 | 340 | 37 |
| 6 | 186 | 25 | 218 | 59 | 252 | 44 | 286 | 5 | 315 | 54 | 341 | 25 |
| 7 | 187 | 29 | 220 | 6 | 253 | 52 | 287 | 9 | 316 | 49 | 342 | 13 |
| 8 | 188 | 34 | 221 | 12 | 255 | 0 | 288 | 13 | 317 | 43 | 343 | 0 |
| 9 | 189 | 38 | 222 | 19 | 256 | 8 | 289 | 16 | 318 | 37 | 343 | 48 |
| 10 | 190 | 43 | 223 | 26 | 257 | 16 | 290 | 19 | 319 | 31 | 344 | 35 |
| 11 | 191 | 47 | 224 | 32 | 258 | 24 | 291 | 22 | 320 | 25 | 345 | 22 |
| 12 | 192 | 51 | 225 | 39 | 259 | 32 | 292 | 24 | 321 | 19 | 346 | 9 |
| 13 | 193 | 56 | 226 | 46 | 260 | 40 | 293 | 26 | 322 | 12 | 346 | 56 |
| 14 | 195 | 0 | 227 | 53 | 261 | 48 | 294 | 28 | 323 | 5 | 347 | 43 |
| 15 | 196 | 5 | 229 | 0 | 262 | 56 | 295 | 30 | 323 | 58 | 348 | 29 |
| 16 | 197 | 9 | 230 | 7 | 264 | 4 | 296 | 31 | 324 | 50 | 349 | 16 |
| 17 | 198 | 14 | 231 | 14 | 265 | 11 | 297 | 32 | 325 | 42 | 350 | 2 |
| 18 | 199 | 19 | 232 | 22 | 266 | 19 | 298 | 33 | 326 | 34 | 350 | 49 |
| 19 | 200 | 24 | 233 | 29 | 267 | 26 | 299 | 34 | 327 | 25 | 351 | 35 |
| 20 | 201 | 29 | 234 | 37 | 268 | 33 | 300 | 34 | 328 | 16 | 352 | 21 |
| 21 | 202 | 34 | 235 | 44 | 269 | 40 | 301 | 34 | 329 | 7 | 353 | 7 |
| 22 | 203 | 39 | 236 | 52 | 270 | 47 | 302 | 33 | 329 | 58 | 353 | 53 |
| 23 | 204 | 44 | 237 | 59 | 271 | 54 | 303 | 32 | 330 | 49 | 354 | 39 |
| 24 | 205 | 49 | 239 | 7 | 273 | 1 | 304 | 31 | 331 | 39 | 355 | 25 |
| 25 | 206 | 55 | 240 | 15 | 274 | 7 | 305 | 30 | 332 | 29 | 356 | 11 |
| 26 | 208 | 0 | 241 | 23 | 275 | 13 | 306 | 28 | 333 | 19 | 356 | 57 |
| 27 | 209 | 6 | 242 | 31 | 276 | 19 | 307 | 26 | 334 | 8 | 357 | 43 |
| 28 | 210 | 11 | 243 | 39 | 277 | 25 | 308 | 24 | 334 | 57 | 358 | 29 |
| 29 | 211 | 17 | 244 | 47 | 278 | 31 | 309 | 22 | 335 | 46 | 359 | 15 |
| 30 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 | 360 | 0 |

| Elevatio | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | 22 | | 23 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m | g. | m. | g. | m. |
| | 1 | 0 | 17 | 0 | 18 | 0 | 19 | 0 | 21 | 0 | 22 | 0 | 23 | 0 | 24 | 0 | 25 |
| | 2 | 0 | 34 | 0 | 37 | 0 | 39 | 0 | 41 | 0 | 44 | 0 | 46 | 0 | 49 | 0 | 51 |
| | 3 | 0 | 52 | 0 | 55 | 0 | 59 | 1 | 2 | 1 | 6 | 1 | 9 | 1 | 13 | 1 | 17 |
| | 4 | 1 | 9 | 1 | 14 | 1 | 18 | 1 | 23 | 1 | 27 | 1 | 32 | 1 | 37 | 1 | 42 |
| | 5 | 1 | 16 | 1 | 32 | 1 | 38 | 1 | 44 | 1 | 49 | 1 | 55 | 2 | 2 | 2 | 8 |
| | 6 | 1 | 44 | 1 | 50 | 1 | 57 | 2 | 4 | 2 | 12 | 2 | 19 | 2 | 26 | 2 | 33 |
| | 7 | 2 | 1 | 2 | 9 | 2 | 17 | 2 | 25 | 2 | 34 | 2 | 42 | 2 | 51 | 2 | 59 |
| | 8 | 2 | 19 | 2 | 28 | 2 | 37 | 2 | 46 | 2 | 56 | 3 | 6 | 3 | 15 | 3 | 25 |
| | 9 | 2 | 36 | 2 | 47 | 2 | 57 | 3 | 8 | 3 | 18 | 3 | 29 | 3 | 40 | 3 | 51 |
| De | 10 | 2 | 54 | 3 | 5 | 3 | 17 | 3 | 29 | 3 | 41 | 3 | 53 | 4 | 5 | 4 | 18 |
| cli- | 11 | 3 | 12 | 3 | 24 | 3 | 37 | 3 | 50 | 4 | 3 | 4 | 17 | 4 | 30 | 4 | 44 |
| na | 12 | 3 | 30 | 3 | 44 | 3 | 58 | 4 | 12 | 4 | 26 | 4 | 41 | 4 | 56 | 5 | 11 |
| tio | | | | | | | | | | | | | | | | | |
| ſtel. | 13 | 3 | 48 | 4 | 3 | 4 | 18 | 4 | 34 | 4 | 49 | 5 | 5 | 5 | 21 | 5 | 38 |
| læ. | 14 | 4 | 6 | 4 | 22 | 4 | 39 | 4 | 55 | 5 | 12 | 5 | 30 | 5 | 47 | 6 | 5 |
| | 15 | 4 | 24 | 4 | 42 | 5 | 0 | 5 | 18 | 5 | 36 | 5 | 54 | 6 | 13 | 6 | 32 |
| | 16 | 4 | 43 | 5 | 2 | 5 | 21 | 5 | 40 | 5 | 59 | 6 | 19 | 6 | 39 | 6 | 59 |
| | 17 | 5 | 2 | 5 | 22 | 5 | 42 | 6 | 2 | 6 | 23 | 6 | 44 | 7 | 6 | 7 | 27 |
| | 18 | 5 | 21 | 5 | 42 | 6 | 4 | 6 | 25 | 6 | 47 | 7 | 10 | 7 | 33 | 7 | 56 |
| | 19 | 5 | 40 | 6 | 3 | 6 | 25 | 6 | 49 | 7 | 12 | 7 | 36 | 8 | 0 | 8 | 24 |
| | 20 | 5 | 59 | 6 | 23 | 6 | 47 | 7 | 12 | 7 | 37 | 8 | 2 | 8 | 27 | 8 | 53 |
| | 21 | 6 | 19 | 6 | 44 | 7 | 10 | 7 | 36 | 8 | 2 | 8 | 28 | 8 | 55 | 9 | 23 |
| | 22 | 6 | 39 | 7 | 6 | 7 | 33 | 8 | 0 | 8 | 27 | 8 | 55 | 9 | 24 | 9 | 53 |
| | 23 | 6 | 59 | 7 | 27 | 7 | 56 | 8 | 24 | 8 | 53 | 9 | 22 | 9 | 53 | 10 | 23 |
| | 24 | 7 | 20 | 7 | 49 | 8 | 19 | 8 | 49 | 9 | 19 | 9 | 50 | 10 | 22 | 10 | 54 |
| | 25 | 7 | 41 | 8 | 12 | 8 | 43 | 9 | 14 | 9 | 46 | 10 | 19 | 10 | 52 | 11 | 25 |
| | 26 | 8 | 2 | 8 | 35 | 9 | 7 | 9 | 40 | 10 | 14 | 10 | 47 | 11 | 22 | 11 | 57 |
| | 27 | 8 | 24 | 8 | 58 | 9 | 32 | 10 | 6 | 10 | 41 | 11 | 17 | 11 | 53 | 12 | 30 |
| | 28 | 8 | 46 | 9 | 21 | 9 | 57 | 10 | 33 | 11 | 9 | 11 | 47 | 12 | 24 | 13 | 3 |
| | 29 | 9 | 9 | 9 | 45 | 10 | 23 | 11 | 0 | 11 | 38 | 12 | 17 | 12 | 56 | 13 | 37 |
| | 30 | 9 | 32 | 10 | 10 | 10 | 49 | 11 | 28 | 12 | 8 | 12 | 48 | 13 | 29 | 14 | 11 |
| | 31 | 9 | 55 | 10 | 35 | 11 | 16 | 11 | 56 | 12 | 38 | 13 | 20 | 14 | 3 | 14 | 47 |
| | 32 | 10 | 19 | 11 | 1 | 11 | 43 | 12 | 25 | 13 | 9 | 13 | 53 | 14 | 37 | 15 | 23 |

| | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Poli |
|---|---|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | | 0 27 | 0 28 | 0 29 | 0 31 | 0 32 | 0 33 | 0 35 | |
| 2 | | 0 53 | 0 56 | 0 59 | 1 1 | 1 4 | 1 7 | 1 9 | |
| 3 | | 1 20 | 1 24 | 1 28 | 1 32 | 1 36 | 1 40 | 1 44 | |
| 4 | | 1 47 | 1 52 | 1 57 | 2 3 | 2 8 | 2 13 | 2 19 | |
| 5 | | 2 14 | 2 20 | 2 27 | 2 33 | 2 40 | 2 47 | 2 54 | |
| 6 | | 2 41 | 2 49 | 2 56 | 3 4 | 3 12 | 3 20 | 3 29 | |
| 7 | | 3 8 | 3 17 | 3 26 | 3 35 | 3 45 | 3 54 | 4 4 | |
| 8 | | 3 35 | 3 45 | 3 56 | 4 6 | 4 17 | 4 28 | 4 39 | |
| 9 | | 4 3 | 4 14 | 4 26 | 4 38 | 4 50 | 5 2 | 5 15 | |
| 10 | | 4 30 | 4 43 | 4 56 | 5 9 | 5 23 | 5 37 | 5 51 | |
| 11 | | 4 58 | 5 12 | 5 26 | 5 41 | 5 56 | 6 11 | 6 27 | |
| 12 | | 5 26 | 5 41 | 5 57 | 6 13 | 6 29 | 6 46 | 7 3 | |
| 13 | | 5 54 | 6 11 | 6 28 | 6 45 | 7 3 | 7 21 | 7 40 | |
| 14 | | 6 22 | 6 41 | 6 59 | 7 18 | 7 37 | 7 56 | 8 17 | |
| 15 | | 6 51 | 7 11 | 7 31 | 7 51 | 8 11 | 8 32 | 8 54 | |
| 16 | | 7 20 | 7 41 | 8 3 | 8 24 | 8 46 | 9 8 | 9 31 | |
| 17 | | 7 49 | 8 12 | 8 35 | 8 58 | 9 21 | 9 45 | 10 10 | |
| 18 | | 8 19 | 8 43 | 9 7 | 9 32 | 9 57 | 10 23 | 10 49 | |
| 19 | | 8 49 | 9 14 | 9 40 | 10 6 | 10 33 | 11 0 | 11 28 | |
| 20 | | 9 19 | 9 46 | 10 13 | 10 41 | 11 9 | 11 38 | 12 8 | |
| 21 | | 9 50 | 10 19 | 10 47 | 11 17 | 11 46 | 12 17 | 12 48 | |
| 22 | | 10 22 | 10 52 | 11 22 | 11 53 | 12 24 | 12 56 | 13 29 | |
| 23 | | 10 54 | 11 25 | 11 57 | 12 29 | 13 3 | 13 36 | 14 11 | |
| 24 | | 11 26 | 11 59 | 12 33 | 13 7 | 13 42 | 14 17 | 14 54 | |
| 25 | | 11 59 | 12 34 | 13 9 | 13 45 | 14 21 | 14 59 | 15 37 | |
| 26 | | 12 33 | 13 9 | 13 46 | 14 23 | 15 2 | 15 41 | 16 21 | |
| 27 | | 13 7 | 13 45 | 14 23 | 15 3 | 15 43 | 16 24 | 17 6 | |
| 28 | | 13 42 | 14 21 | 15 2 | 15 43 | 16 25 | 17 8 | 17 53 | |
| 29 | | 14 17 | 14 59 | 15 41 | 16 24 | 17 8 | 17 54 | 18 40 | |
| 30 | | 14 54 | 15 37 | 16 21 | 17 6 | 17 53 | 18 40 | 19 28 | |
| 31 | | 15 31 | 16 16 | 17 2 | 17 50 | 18 38 | 19 27 | 20 18 | |
| 32 | | 16 9 | 16 56 | 17 45 | 18 34 | 19 24 | 20 16 | 21 9 | |

Declinatio ſtellæ.

| Elevatio | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | | 38 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 1 | 0 | 36 | 0 | 37 | 0 | 39 | 0 | 40 | 0 | 42 | 0 | 44 | 0 | 45 | 0 | 47 |
| 2 | 1 | 12 | 1 | 15 | 1 | 18 | 1 | 21 | 1 | 24 | 1 | 27 | 1 | 30 | 1 | 34 |
| 3 | 1 | 48 | 1 | 53 | 1 | 57 | 2 | 2 | 2 | 6 | 2 | 11 | 2 | 16 | 2 | 21 |
| 4 | 2 | 24 | 2 | 30 | 2 | 36 | 2 | 42 | 2 | 48 | 2 | 55 | 3 | 1 | 3 | 8 |
| 5 | 3 | 1 | 3 | 8 | 3 | 15 | 3 | 23 | 3 | 31 | 3 | 39 | 3 | 47 | 3 | 55 |
| 6 | 3 | 37 | 3 | 46 | 3 | 55 | 4 | 4 | 4 | 13 | 4 | 22 | 4 | 33 | 4 | 43 |
| 7 | 4 | 14 | 4 | 24 | 4 | 34 | 4 | 45 | 4 | 56 | 5 | 7 | 5 | 19 | 5 | 30 |
| 8 | 4 | 51 | 5 | 2 | 5 | 14 | 5 | 26 | 5 | 39 | 5 | 52 | 6 | 5 | 6 | 18 |
| 9 | 5 | 28 | 5 | 41 | 5 | 54 | 6 | 8 | 6 | 22 | 6 | 36 | 6 | 51 | 7 | 6 |
| 10 | 6 | 5 | 6 | 20 | 6 | 35 | 6 | 50 | 7 | 6 | 7 | 22 | 7 | 38 | 7 | 55 |
| 11 | 6 | 42 | 6 | 59 | 7 | 15 | 7 | 32 | 7 | 50 | 8 | 7 | 8 | 25 | 8 | 44 |
| 12 | 7 | 20 | 7 | 38 | 7 | 56 | 8 | 15 | 8 | 34 | 8 | 53 | 9 | 13 | 9 | 34 |
| 13 | 7 | 58 | 8 | 18 | 8 | 38 | 8 | 58 | 9 | 18 | 9 | 39 | 10 | 1 | 10 | 24 |
| 14 | 8 | 37 | 8 | 58 | 9 | 19 | 9 | 41 | 10 | 3 | 10 | 26 | 10 | 50 | 11 | 14 |
| 15 | 9 | 16 | 9 | 38 | 10 | 1 | 10 | 25 | 10 | 49 | 11 | 14 | 11 | 39 | 12 | 5 |
| 16 | 9 | 55 | 10 | 19 | 10 | 44 | 11 | 9 | 11 | 31 | 12 | 2 | 12 | 29 | 12 | 57 |
| 17 | 10 | 35 | 11 | 1 | 11 | 27 | 11 | 54 | 12 | 22 | 12 | 50 | 13 | 19 | 13 | 49 |
| 18 | 11 | 16 | 11 | 43 | 12 | 11 | 12 | 40 | 13 | 9 | 13 | 39 | 14 | 10 | 14 | 42 |
| 19 | 11 | 57 | 12 | 25 | 12 | 55 | 13 | 26 | 13 | 57 | 14 | 29 | 15 | 2 | 15 | 36 |
| 20 | 12 | 38 | 13 | 9 | 13 | 40 | 14 | 13 | 14 | 46 | 15 | 20 | 15 | 55 | 16 | 31 |
| 21 | 13 | 20 | 13 | 53 | 14 | 26 | 15 | 0 | 15 | 36 | 16 | 12 | 16 | 49 | 17 | 27 |
| 22 | 14 | 3 | 14 | 37 | 15 | 13 | 15 | 49 | 16 | 27 | 17 | 5 | 17 | 44 | 18 | 24 |
| 23 | 14 | 47 | 15 | 23 | 16 | 0 | 16 | 38 | 17 | 18 | 17 | 58 | 18 | 39 | 19 | 22 |
| 24 | 15 | 31 | 16 | 9 | 16 | 48 | 17 | 29 | 18 | 10 | 18 | 52 | 19 | 36 | 20 | 21 |
| 25 | 16 | 16 | 16 | 56 | 17 | 38 | 18 | 20 | 19 | 3 | 19 | 48 | 20 | 34 | 21 | 22 |
| 26 | 17 | 3 | 17 | 45 | 18 | 28 | 19 | 12 | 19 | 58 | 20 | 45 | 21 | 34 | 22 | 24 |
| 27 | 17 | 50 | 18 | 34 | 19 | 19 | 20 | 6 | 20 | 54 | 21 | 43 | 22 | 35 | 23 | 28 |
| 28 | 18 | 38 | 19 | 24 | 20 | 12 | 21 | 1 | 21 | 51 | 22 | 43 | 23 | 37 | 24 | 33 |
| 29 | 19 | 27 | 20 | 16 | 21 | 6 | 21 | 57 | 22 | 50 | 23 | 45 | 24 | 41 | 25 | 40 |
| 30 | 20 | 18 | 21 | 9 | 22 | 1 | 22 | 55 | 23 | 51 | 24 | 48 | 25 | 47 | 26 | 49 |
| 31 | 21 | 10 | 22 | 3 | 22 | 58 | 23 | 55 | 24 | 53 | 25 | 53 | 26 | 55 | 28 | 0 |
| 32 | 22 | 3 | 22 | 59 | 23 | 56 | 24 | 56 | 25 | 57 | 27 | 0 | 28 | 5 | 29 | 13 |

| ' | | 39 | 40 | 41 | 42 | 43 | 44 | 45 | Poli |
|---|---|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | | 0 49 | 0 50 | 0 52 | 0 54 | 0 56 | 0 58 | 1 0 | |
| 2 | | 1 37 | 1 41 | 1 44 | 1 48 | 1 52 | 1 56 | 1 0 | |
| 3 | | 2 26 | 2 31 | 2 37 | 2 42 | 2 48 | 2 54 | 3 0 | |
| 4 | | 3 15 | 3 22 | 3 29 | 3 37 | 3 4 | 3 52 | 4 1 | |
| 5 | | 4 4 | 4 13 | 4 22 | 4 31 | 4 41 | 4 51 | 5 1 | |
| 6 | | 4 53 | 5 4 | 5 15 | 5 26 | 5 37 | 5 50 | 6 2 | |
| 7 | | 5 42 | 5 55 | 6 8 | 6 21 | 6 34 | 6 49 | 7 3 | |
| 8 | | 6 32 | 6 46 | 7 1 | 7 16 | 7 32 | 7 48 | 8 5 | |
| 9 | | 7 22 | 7 38 | 7 55 | 8 12 | 8 30 | 8 48 | 9 7 | |
| 10 | | 8 13 | 8 30 | 8 49 | 9 8 | 9 28 | 9 48 | 10 9 | |
| 11 | | 9 4 | 9 23 | 9 44 | 10 5 | 10 27 | 10 49 | 11 12 | |
| 12 | | 9 55 | 10 16 | 10 39 | 11 2 | 11 26 | 11 51 | 12 16 | |
| 13 | | 10 46 | 11 10 | 11 35 | 12 0 | 12 26 | 12 53 | 13 21 | |
| 14 | | 11 39 | 12 5 | 12 31 | 12 58 | 13 27 | 13 56 | 14 26 | |
| 15 | | 12 32 | 13 0 | 13 28 | 13 58 | 14 28 | 15 0 | 15 32 | |
| 16 | | 13 26 | 13 55 | 14 26 | 14 58 | 15 31 | 16 5 | 16 40 | |
| 17 | | 14 20 | 14 52 | 15 25 | 15 59 | 16 34 | 17 10 | 17 48 | |
| 18 | | 15 15 | 15 49 | 16 24 | 17 1 | 17 38 | 18 17 | 18 58 | |
| 19 | | 16 11 | 16 48 | 17 25 | 18 4 | 18 43 | 19 25 | 20 9 | |
| 20 | | 17 8 | 17 47 | 18 27 | 19 8 | 19 50 | 20 35 | 21 22 | |
| 21 | | 18 7 | 18 47 | 19 30 | 20 13 | 20 59 | 21 46 | 22 35 | |
| 22 | | 19 6 | 19 49 | 20 34 | 21 20 | 22 8 | 22 58 | 23 50 | |
| 23 | | 20 6 | 20 52 | 21 39 | 22 28 | 23 19 | 24 12 | 25 7 | |
| 24 | | 21 8 | 21 56 | 22 46 | 23 38 | 24 32 | 25 28 | 26 26 | |
| 25 | | 22 11 | 23 2 | 23 55 | 24 50 | 25 47 | 26 46 | 27 48 | |
| 26 | | 23 16 | 24 9 | 25 5 | 26 3 | 27 3 | 28 6 | 29 12 | |
| 27 | | 24 22 | 25 19 | 26 17 | 27 18 | 28 22 | 29 29 | 30 38 | |
| 28 | | 25 30 | 26 30 | 27 31 | 28 36 | 29 44 | 30 54 | 32 7 | |
| 29 | | 26 40 | 27 43 | 28 48 | 29 55 | 31 8 | 32 22 | 33 40 | |
| 30 | | 27 52 | 28 59 | 30 7 | 31 19 | 32 35 | 23 53 | 35 16 | |
| 31 | | 39 7 | 30 17 | 31 29 | 32 45 | 34 5 | 25 28 | 36 56 | |
| 32 | | 30 24 | 31 38 | 32 54 | 34 14 | 35 38 | 37 7 | 38 40 | |

Declinatio ſtellæ

| Elevatio | 46 | | 47 | | 48 | | 49 | | 50 | | 51 | | 52 | | 53 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 1 | 1 | 2 | 1 | 4 | 1 | 7 | 1 | 9 | 1 | 12 | 1 | 14 | 1 | 17 | 1 | 20 |
| 2 | 2 | 4 | 2 | 9 | 2 | 18 | 2 | 18 | 2 | 23 | 2 | 28 | 2 | 34 | 2 | 39 |
| 3 | 3 | 7 | 3 | 13 | 3 | 20 | 3 | 27 | 3 | 35 | 3 | 43 | 3 | 51 | 3 | 59 |
| 4 | 4 | 9 | 4 | 18 | 4 | 27 | 4 | 37 | 4 | 47 | 4 | 57 | 5 | 8 | 5 | 19 |
| 5 | 5 | 12 | 5 | 23 | 5 | 35 | 5 | 47 | 5 | 59 | 6 | 12 | 6 | 26 | 6 | 40 |
| 6 | 6 | 15 | 6 | 28 | 6 | 42 | 6 | 57 | 7 | 12 | 7 | 27 | 7 | 44 | 8 | 1 |
| 7 | 7 | 18 | 7 | 34 | 7 | 50 | 8 | 7 | 8 | 25 | 8 | 43 | 9 | 2 | 9 | 23 |
| 8 | 8 | 22 | 8 | 40 | 8 | 59 | 9 | 18 | 9 | 38 | 10 | 0 | 10 | 22 | 10 | 45 |
| 9 | 9 | 26 | 9 | 47 | 10 | 8 | 10 | 30 | 10 | 53 | 11 | 17 | 11 | 42 | 12 | 8 |
| 10 | 10 | 31 | 10 | 54 | 11 | 18 | 11 | 42 | 12 | 8 | 12 | 35 | 13 | 3 | 13 | 32 |
| 11 | 11 | 37 | 12 | 2 | 12 | 28 | 12 | 55 | 13 | 24 | 13 | 53 | 14 | 24 | 14 | 57 |
| 12 | 12 | 43 | 13 | 11 | 13 | 39 | 14 | 9 | 14 | 40 | 15 | 13 | 15 | 47 | 16 | 23 |
| 13 | 13 | 50 | 14 | 20 | 14 | 51 | 15 | 24 | 15 | 58 | 16 | 34 | 17 | 11 | 17 | 50 |
| 14 | 14 | 58 | 15 | 30 | 16 | 5 | 16 | 40 | 17 | 17 | 17 | 56 | 18 | 37 | 19 | 19 |
| 15 | 16 | 7 | 16 | 42 | 17 | 19 | 17 | 57 | 18 | 37 | 19 | 19 | 20 | 4 | 20 | 50 |
| 16 | 17 | 16 | 17 | 54 | 18 | 34 | 19 | 16 | 19 | 59 | 20 | 44 | 21 | 32 | 22 | 22 |
| 17 | 18 | 27 | 19 | 8 | 19 | 51 | 20 | 36 | 21 | 22 | 22 | 11 | 23 | 2 | 23 | 56 |
| 18 | 19 | 40 | 20 | 23 | 21 | 9 | 21 | 57 | 22 | 47 | 23 | 39 | 24 | 34 | 25 | 33 |
| 19 | 20 | 53 | 21 | 40 | 22 | 29 | 23 | 20 | 24 | 14 | 25 | 10 | 26 | 9 | 27 | 11 |
| 20 | 22 | 8 | 22 | 58 | 23 | 51 | 24 | 45 | 25 | 43 | 26 | 43 | 27 | 46 | 28 | 53 |
| 21 | 23 | 25 | 24 | 18 | 25 | 14 | 26 | 12 | 27 | 14 | 28 | 18 | 29 | 26 | 30 | 37 |
| 22 | 24 | 44 | 25 | 40 | 26 | 40 | 27 | 42 | 28 | 48 | 29 | 56 | 31 | 8 | 32 | 25 |
| 23 | 26 | 5 | 27 | 5 | 28 | 8 | 29 | 14 | 30 | 24 | 31 | 37 | 32 | 54 | 34 | 17 |
| 24 | 27 | 27 | 28 | 31 | 29 | 38 | 30 | 48 | 32 | 3 | 33 | 21 | 34 | 44 | 36 | 13 |
| 25 | 28 | 52 | 30 | 0 | 31 | 12 | 32 | 26 | 33 | 46 | 35 | 10 | 36 | 39 | 38 | 14 |
| 26 | 30 | 20 | 31 | 32 | 32 | 48 | 34 | 8 | 35 | 32 | 37 | 3 | 38 | 38 | 40 | 20 |
| 27 | 31 | 51 | 33 | 7 | 34 | 28 | 35 | 53 | 37 | 23 | 39 | 0 | 40 | 42 | 42 | 33 |
| 28 | 33 | 25 | 34 | 46 | 36 | 12 | 37 | 42 | 39 | 19 | 41 | 2 | 42 | 53 | 44 | 53 |
| 29 | 35 | 2 | 36 | 28 | 38 | 0 | 39 | 37 | 41 | 21 | 43 | 12 | 45 | 12 | 47 | 21 |
| 30 | 36 | 43 | 38 | 15 | 39 | 53 | 41 | 37 | 43 | 29 | 45 | 29 | 47 | 39 | 50 | 1 |
| 31 | 38 | 29 | 40 | 7 | 41 | 52 | 43 | 44 | 45 | 44 | 47 | 54 | 50 | 16 | 52 | 53 |
| 32 | 40 | 19 | 42 | 4 | 43 | 57 | 45 | 57 | 48 | 8 | 50 | 30 | 53 | 7 | 56 | 1 |

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | Poli |
|---|---|---|---|---|---|---|---|---|
| G | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. | |
| 1 | 1 23 | 1 26 | 1 29 | 1 32 | 1 36 | 1 40 | 1 44 | |
| 2 | 2 45 | 2 51 | 2 58 | 3 5 | 3 12 | 3 20 | 2 28 | |
| 3 | 4 8 | 4 17 | 4 27 | 4 38 | 4 49 | 5 0 | 5 12 | |
| 4 | 5 31 | 5 44 | 5 57 | 6 11 | 6 25 | 6 41 | 6 57 | |
| 5 | 6 55 | 7 11 | 7 27 | 7 44 | 8 3 | 8 22 | 8 43 | |
| 6 | 8 19 | 8 38 | 8 58 | 9 19 | 9 41 | 10 4 | 10 29 | |
| 7 | 9 44 | 10 6 | 10 29 | 10 54 | 11 20 | 11 47 | 12 17 | |
| 8 | 11 9 | 11 35 | 12 1 | 12 30 | 13 0 | 13 32 | 14 5 | |
| 9 | 12 35 | 13 4 | 13 35 | 14 7 | 14 41 | 15 17 | 15 55 | |
| 10 | 14 3 | 14 35 | 15 9 | 15 45 | 16 23 | 17 4 | 17 47 | |
| 11 | 15 31 | 16 7 | 16 45 | 17 25 | 18 8 | 18 53 | 19 41 | |
| 12 | 17 1 | 17 40 | 18 22 | 19 6 | 19 53 | 20 43 | 21 36 | |
| 13 | 18 32 | 19 15 | 20 1 | 20 50 | 21 41 | 22 36 | 23 34 | |
| 14 | 20 4 | 20 52 | 21 42 | 22 35 | 23 31 | 24 31 | 25 35 | |
| 15 | 21 38 | 22 30 | 23 24 | 24 22 | 25 23 | 26 29 | 27 39 | |
| 16 | 23 15 | 24 10 | 25 9 | 26 12 | 27 19 | 28 30 | 29 47 | |
| 17 | 24 53 | 25 53 | 26 57 | 28 5 | 29 18 | 30 35 | 31 59 | |
| 18 | 26 34 | 27 39 | 28 48 | 30 1 | 31 20 | 32 44 | 34 19 | |
| 19 | 28 17 | 29 27 | 30 41 | 32 1 | 33 20 | 34 58 | 36 37 | |
| 20 | 30 4 | 31 19 | 32 39 | 34 5 | 35 37 | 37 17 | 39 5 | |
| 21 | 31 54 | 33 15 | 34 41 | 36 14 | 37 54 | 39 42 | 41 40 | |
| 22 | 33 47 | 35 14 | 36 48 | 38 28 | 40 17 | 42 15 | 44 25 | |
| 23 | 35 45 | 37 19 | 39 0 | 40 49 | 42 47 | 44 57 | 47 20 | |
| 24 | 37 48 | 39 29 | 41 18 | 43 17 | 45 26 | 47 49 | 50 27 | |
| 25 | 39 56 | 41 45 | 43 44 | 45 54 | 48 16 | 50 54 | 53 52 | |
| 26 | 42 10 | 44 9 | 46 18 | 48 41 | 51 19 | 54 16 | 57 39 | |
| 27 | 44 32 | 46 41 | 49 4 | 51 41 | 54 38 | 58 0 | 61 57 | |
| 28 | 47 2 | 49 24 | 52 1 | 54 58 | 58 19 | 62 14 | 67 4 | |
| 29 | 49 44 | 52 20 | 55 16 | 58 36 | 62 30 | 67 18 | 73 46 | |
| 30 | 52 37 | 55 32 | 58 52 | 62 45 | 67 31 | 73 55 | 90 0 | |
| 31 | 55 48 | 59 6 | 62 58 | 67 42 | 74 4 | 90 0 | 90 0 | |
| 32 | 59 19 | 63 10 | 67 53 | 74 12 | 90 0 | 90 0 | 90 0 | |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 23 | 39 | 50 | 6 | 80 | 54 | 114 | 30 | 147 | 51 |
| 1 | | 0 | 46 | 24 | 28 | 51 | 4 | 81 | 59 | 115 | 38 | 148 | 57 |
| 2 | | 1 | 32 | 25 | 18 | 52 | 2 | 83 | 5 | 116 | 46 | 150 | 2 |
| 3 | | 2 | 19 | 26 | 8 | 53 | 0 | 84 | 11 | 117 | 54 | 151 | 7 |
| 4 | | 3 | 5 | 26 | 58 | 53 | 58 | 85 | 17 | 119 | 1 | 152 | 12 |
| 5 | | 3 | 52 | 37 | 48 | 54 | 56 | 86 | 23 | 120 | 8 | 153 | 17 |
| 6 | | 4 | 38 | 28 | 39 | 55 | 55 | 87 | 29 | 121 | 16 | 154 | 22 |
| 7 | | 5 | 24 | 29 | 30 | 56 | 54 | 88 | 36 | 122 | 23 | 155 | 27 |
| 8 | | 6 | 11 | 30 | 21 | 57 | 54 | 89 | 43 | 123 | 31 | 156 | 32 |
| 9 | | 6 | 57 | 31 | 12 | 58 | 53 | 90 | 50 | 124 | 38 | 157 | 37 |
| 10 | | 7 | 44 | 32 | 3 | 59 | 53 | 91 | 57 | 125 | 45 | 158 | 41 |
| 11 | | 8 | 30 | 32 | 55 | 60 | 54 | 93 | 4 | 126 | 53 | 159 | 46 |
| 12 | | 9 | 17 | 33 | 47 | 61 | 55 | 94 | 11 | 128 | 0 | 160 | 50 |
| 13 | | 10 | 4 | 34 | 39 | 62 | 56 | 95 | 18 | 129 | 7 | 161 | 54 |
| 14 | | 10 | 51 | 35 | 31 | 63 | 57 | 96 | 25 | 130 | 14 | 162 | 58 |
| 15 | | 11 | 38 | 36 | 23 | 64 | 59 | 97 | 33 | 131 | 21 | 164 | 2 |
| 16 | | 12 | 25 | 37 | 16 | 66 | 1 | 98 | 40 | 132 | 28 | 165 | 6 |
| 17 | | 13 | 12 | 38 | 10 | 67 | 3 | 99 | 48 | 133 | 34 | 166 | 10 |
| 18 | | 14 | 0 | 39 | 3 | 68 | 6 | 100 | 55 | 134 | 41 | 167 | 14 |
| 19 | | 14 | 47 | 39 | 57 | 69 | 8 | 102 | 3 | 135 | 47 | 168 | 18 |
| 20 | | 15 | 35 | 40 | 51 | 70 | 11 | 103 | 11 | 136 | 53 | 169 | 22 |
| 21 | | 16 | 23 | 41 | 45 | 71 | 14 | 104 | 18 | 138 | 0 | 170 | 26 |
| 22 | | 17 | 11 | 42 | 40 | 72 | 18 | 105 | 26 | 139 | 6 | 171 | 30 |
| 23 | | 17 | 59 | 43 | 34 | 73 | 21 | 106 | 34 | 140 | 12 | 172 | 34 |
| 24 | | 18 | 47 | 44 | 29 | 74 | 25 | 107 | 42 | 141 | 18 | 173 | 38 |
| 25 | | 19 | 35 | 45 | 24 | 75 | 29 | 108 | 50 | 142 | 24 | 174 | 42 |
| 26 | | 20 | 23 | 46 | 20 | 76 | 34 | 109 | 58 | 143 | 30 | 175 | 46 |
| 27 | | 21 | 12 | 47 | 16 | 77 | 39 | 111 | 6 | 144 | 35 | 176 | 50 |
| 28 | | 22 | 1 | 48 | 13 | 78 | 44 | 112 | 14 | 145 | 41 | 177 | 53 |
| 29 | | 22 | 50 | 49 | 9 | 79 | 49 | 113 | 22 | 146 | 46 | 178 | 57 |
| 30 | | 23 | 39 | 50 | 6 | 80 | 54 | 114 | 30 | 147 | 51 | 179 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 212 | 9 | 245 | 30 | 279 | 6 | 309 | 54 | 336 | 21 |
| 1 | 181 | 3 | 213 | 14 | 246 | 38 | 280 | 11 | 310 | 51 | 337 | 10 |
| 2 | 182 | 7 | 214 | 19 | 247 | 46 | 281 | 16 | 311 | 47 | 337 | 59 |
| 3 | 183 | 10 | 215 | 25 | 248 | 54 | 282 | 21 | 312 | 44 | 338 | 48 |
| 4 | 184 | 14 | 216 | 30 | 250 | 2 | 283 | 26 | 313 | 40 | 339 | 37 |
| 5 | 185 | 18 | 217 | 36 | 251 | 10 | 284 | 31 | 314 | 36 | 340 | 25 |
| 6 | 186 | 22 | 218 | 42 | 252 | 18 | 285 | 35 | 315 | 31 | 341 | 13 |
| 7 | 187 | 26 | 219 | 48 | 253 | 26 | 286 | 39 | 316 | 26 | 342 | 1 |
| 8 | 188 | 30 | 220 | 54 | 254 | 34 | 287 | 42 | 317 | 20 | 342 | 49 |
| 9 | 189 | 34 | 222 | 0 | 255 | 42 | 288 | 46 | 318 | 15 | 343 | 37 |
| 10 | 190 | 38 | 223 | 7 | 256 | 49 | 289 | 49 | 319 | 9 | 344 | 25 |
| 11 | 191 | 42 | 224 | 13 | 257 | 57 | 290 | 52 | 320 | 3 | 345 | 13 |
| 12 | 192 | 46 | 225 | 19 | 259 | 5 | 291 | 54 | 320 | 57 | 346 | 0 |
| 13 | 193 | 50 | 226 | 26 | 260 | 12 | 292 | 57 | 321 | 50 | 346 | 48 |
| 14 | 194 | 54 | 227 | 32 | 261 | 20 | 293 | 59 | 322 | 44 | 347 | 35 |
| 15 | 195 | 58 | 228 | 39 | 262 | 27 | 295 | 1 | 323 | 37 | 348 | 22 |
| 16 | 197 | 2 | 229 | 46 | 263 | 35 | 296 | 3 | 324 | 29 | 349 | 9 |
| 17 | 198 | 6 | 230 | 53 | 264 | 42 | 297 | 4 | 325 | 21 | 349 | 56 |
| 18 | 199 | 10 | 232 | 0 | 265 | 49 | 298 | 5 | 326 | 13 | 350 | 43 |
| 19 | 200 | 14 | 233 | 7 | 266 | 56 | 299 | 6 | 327 | 5 | 351 | 30 |
| 20 | 201 | 19 | 234 | 15 | 268 | 3 | 300 | 7 | 327 | 57 | 352 | 16 |
| 21 | 202 | 23 | 235 | 22 | 269 | 10 | 301 | 7 | 328 | 48 | 353 | 3 |
| 22 | 203 | 28 | 236 | 29 | 270 | 17 | 302 | 6 | 329 | 39 | 353 | 49 |
| 23 | 204 | 33 | 237 | 37 | 271 | 24 | 303 | 6 | 330 | 30 | 354 | 36 |
| 24 | 205 | 38 | 238 | 44 | 272 | 31 | 304 | 5 | 331 | 21 | 355 | 22 |
| 25 | 206 | 43 | 239 | 52 | 273 | 37 | 305 | 4 | 332 | 12 | 356 | 8 |
| 26 | 207 | 48 | 240 | 59 | 274 | 43 | 306 | 2 | 333 | 2 | 356 | 55 |
| 27 | 208 | 53 | 242 | 7 | 275 | 49 | 307 | 0 | 333 | 52 | 357 | 41 |
| 28 | 209 | 58 | 243 | 14 | 276 | 55 | 307 | 58 | 334 | 42 | 358 | 28 |
| 29 | 211 | 3 | 244 | 22 | 278 | 1 | 308 | 56 | 335 | 32 | 359 | 14 |
| 30 | 212 | 9 | 245 | 30 | 279 | 6 | 309 | 54 | 336 | 21 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 |
| 1 | | 0 | 45 | 24 | 14 | 50 | 38 | 81 | 29 | 115 | 13 | 148 | 43 |
| 2 | | 1 | 31 | 25 | 3 | 51 | 36 | 82 | 35 | 116 | 21 | 149 | 49 |
| 3 | | 2 | 17 | 25 | 52 | 52 | 34 | 83 | 41 | 117 | 29 | 150 | 54 |
| 4 | | 3 | 3 | 26 | 41 | 53 | 32 | 84 | 47 | 118 | 37 | 152 | 0 |
| 5 | | 3 | 49 | 27 | 31 | 54 | 30 | 85 | 53 | 119 | 45 | 153 | 5 |
| 6 | | 4 | 35 | 28 | 21 | 55 | 29 | 86 | 59 | 120 | 53 | 154 | 11 |
| 7 | | 5 | 21 | 29 | 11 | 56 | 28 | 88 | 6 | 122 | 1 | 155 | 16 |
| 8 | | 6 | 7 | 30 | 2 | 57 | 27 | 89 | 13 | 123 | 8 | 156 | 21 |
| 9 | | 6 | 53 | 30 | 53 | 58 | 26 | 90 | 20 | 124 | 16 | 157 | 26 |
| 10 | | 7 | 39 | 31 | 44 | 59 | 26 | 91 | 27 | 125 | 23 | 158 | 31 |
| 11 | | 8 | 25 | 32 | 35 | 60 | 26 | 92 | 34 | 126 | 31 | 159 | 36 |
| 12 | | 9 | 11 | 33 | 26 | 61 | 27 | 93 | 41 | 127 | 38 | 160 | 41 |
| 13 | | 9 | 58 | 34 | 18 | 62 | 28 | 94 | 49 | 128 | 46 | 161 | 46 |
| 14 | | 10 | 44 | 35 | 10 | 63 | 29 | 95 | 56 | 129 | 53 | 162 | 51 |
| 15 | | 11 | 31 | 36 | 2 | 64 | 30 | 97 | 4 | 131 | 0 | 163 | 55 |
| 16 | | 12 | 17 | 36 | 55 | 65 | 32 | 98 | 12 | 132 | 7 | 165 | 0 |
| 17 | | 13 | 4 | 37 | 48 | 66 | 34 | 99 | 20 | 133 | 14 | 166 | 4 |
| 18 | | 13 | 51 | 38 | 41 | 67 | 36 | 100 | 28 | 134 | 21 | 167 | 9 |
| 19 | | 14 | 38 | 39 | 35 | 68 | 38 | 101 | 36 | 135 | 28 | 168 | 13 |
| 20 | | 15 | 25 | 40 | 29 | 69 | 41 | 102 | 44 | 136 | 34 | 169 | 17 |
| 21 | | 16 | 12 | 41 | 23 | 70 | 44 | 103 | 52 | 137 | 41 | 170 | 22 |
| 22 | | 17 | 0 | 42 | 27 | 71 | 47 | 105 | 0 | 138 | 48 | 171 | 26 |
| 23 | | 17 | 47 | 43 | 11 | 72 | 51 | 106 | 8 | 139 | 54 | 172 | 31 |
| 24 | | 18 | 35 | 44 | 6 | 73 | 55 | 107 | 16 | 141 | 1 | 173 | 35 |
| 25 | | 10 | 22 | 45 | 1 | 74 | 59 | 108 | 24 | 142 | 7 | 174 | 39 |
| 26 | | 20 | 11 | 45 | 56 | 76 | 3 | 109 | 32 | 143 | 13 | 175 | 44 |
| 27 | | 20 | 59 | 46 | 52 | 77 | 8 | 110 | 40 | 144 | 19 | 176 | 48 |
| 28 | | 21 | 48 | 47 | 48 | 78 | 13 | 111 | 48 | 145 | 25 | 177 | 52 |
| 29 | | 22 | 36 | 48 | 44 | 79 | 18 | 112 | 56 | 146 | 31 | 178 | 56 |
| 30 | | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 |
| 1 | 181 | 4 | 213 | 29 | 247 | 4 | 280 | 42 | 311 | 16 | 337 | 24 |
| 2 | 182 | 8 | 214 | 35 | 248 | 12 | 281 | 47 | 312 | 12 | 338 | 12 |
| 3 | 183 | 12 | 215 | 41 | 249 | 20 | 282 | 52 | 313 | 8 | 339 | 1 |
| 4 | 184 | 16 | 216 | 47 | 250 | 28 | 283 | 57 | 314 | 4 | 339 | 49 |
| 5 | 185 | 21 | 217 | 53 | 251 | 36 | 285 | 1 | 314 | 59 | 340 | 37 |
| 6 | 186 | 25 | 218 | 59 | 252 | 44 | 286 | 5 | 315 | 54 | 341 | 25 |
| 7 | 187 | 29 | 220 | 6 | 253 | 52 | 287 | 9 | 316 | 49 | 342 | 13 |
| 8 | 188 | 34 | 221 | 12 | 255 | 0 | 288 | 13 | 317 | 43 | 343 | 0 |
| 9 | 189 | 38 | 222 | 19 | 256 | 8 | 289 | 16 | 318 | 37 | 843 | 48 |
| 10 | 190 | 43 | 223 | 26 | 257 | 16 | 290 | 19 | 319 | 31 | 344 | 35 |
| 11 | 191 | 47 | 224 | 32 | 258 | 24 | 291 | 22 | 320 | 25 | 345 | 22 |
| 12 | 192 | 51 | 225 | 39 | 259 | 32 | 292 | 24 | 321 | 19 | 346 | 9 |
| 13 | 193 | 56 | 226 | 46 | 260 | 40 | 293 | 26 | 322 | 12 | 346 | 56 |
| 14 | 195 | 0 | 227 | 53 | 261 | 48 | 294 | 28 | 323 | 5 | 347 | 43 |
| 15 | 196 | 5 | 229 | 0 | 262 | 56 | 295 | 30 | 323 | 58 | 348 | 29 |
| 16 | 197 | 9 | 230 | 7 | 264 | 4 | 296 | 31 | 324 | 50 | 349 | 16 |
| 17 | 198 | 14 | 231 | 14 | 265 | 11 | 297 | 32 | 325 | 42 | 350 | 2 |
| 18 | 199 | 19 | 232 | 22 | 266 | 19 | 298 | 33 | 326 | 34 | 350 | 49 |
| 19 | 200 | 24 | 233 | 29 | 267 | 26 | 299 | 34 | 327 | 25 | 351 | 35 |
| 20 | 201 | 29 | 234 | 37 | 268 | 33 | 300 | 34 | 328 | 16 | 352 | 21 |
| 21 | 202 | 34 | 235 | 44 | 269 | 40 | 301 | 34 | 329 | 7 | 353 | 7 |
| 22 | 203 | 39 | 236 | 52 | 270 | 47 | 302 | 33 | 329 | 58 | 353 | 53 |
| 23 | 204 | 44 | 237 | 59 | 271 | 54 | 303 | 32 | 330 | 49 | 354 | 39 |
| 24 | 205 | 49 | 239 | 7 | 273 | 1 | 304 | 31 | 331 | 39 | 355 | 25 |
| 25 | 206 | 55 | 240 | 15 | 274 | 7 | 305 | 30 | 332 | 29 | 356 | 11 |
| 26 | 208 | 0 | 241 | 23 | 275 | 13 | 306 | 28 | 333 | 19 | 356 | 57 |
| 27 | 209 | 6 | 242 | 31 | 276 | 19 | 307 | 26 | 334 | 8 | 357 | 43 |
| 28 | 210 | 11 | 243 | 39 | 277 | 25 | 308 | 24 | 334 | 57 | 358 | 29 |
| 29 | 211 | 17 | 244 | 47 | 278 | 31 | 309 | 22 | 335 | 46 | 359 | 15 |
| 30 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 23 | 11 | 49 | 15 | 79 | 52 | 113 | 39 | 147 | 23 |
| 1 | | 0 | 45 | 23 | 59 | 50 | 12 | 80 | 58 | 114 | 48 | 148 | 29 |
| 2 | | 1 | 30 | 24 | 48 | 51 | 9 | 82 | 4 | 115 | 56 | 149 | 35 |
| 3 | | 2 | 16 | 25 | 37 | 52 | 6 | 83 | 10 | 117 | 4 | 150 | 41 |
| 4 | | 3 | 1 | 26 | 26 | 53 | 4 | 84 | 16 | 118 | 12 | 151 | 47 |
| 5 | | 3 | 47 | 27 | 15 | 54 | 2 | 85 | 23 | 119 | 20 | 152 | 53 |
| 6 | | 4 | 32 | 28 | 5 | 55 | 0 | 86 | 29 | 120 | 28 | 153 | 59 |
| 7 | | 5 | 18 | 28 | 55 | 55 | 59 | 87 | 36 | 121 | 36 | 155 | 5 |
| 8 | | 6 | 3 | 29 | 45 | 56 | 58 | 88 | 43 | 122 | 44 | 156 | 11 |
| 9 | | 6 | 49 | 30 | 35 | 57 | 57 | 89 | 50 | 123 | 52 | 157 | 17 |
| 10 | | 7 | 35 | 31 | 26 | 58 | 57 | 90 | 57 | 125 | 0 | 158 | 22 |
| 11 | | 8 | 20 | 32 | 17 | 59 | 57 | 92 | 4 | 126 | 8 | 159 | 28 |
| 12 | | 9 | 6 | 33 | 8 | 60 | 58 | 93 | 12 | 127 | 16 | 160 | 33 |
| 13 | | 9 | 52 | 33 | 59 | 61 | 59 | 94 | 19 | 128 | 24 | 161 | 38 |
| 14 | | 10 | 38 | 34 | 50 | 63 | 0 | 95 | 27 | 129 | 32 | 162 | 43 |
| 15 | | 11 | 24 | 35 | 42 | 64 | 1 | 96 | 35 | 130 | 40 | 163 | 48 |
| 16 | | 12 | 10 | 36 | 34 | 65 | 3 | 97 | 43 | 131 | 48 | 164 | 53 |
| 17 | | 12 | 56 | 37 | 27 | 66 | 5 | 98 | 51 | 132 | 55 | 165 | 58 |
| 18 | | 13 | 43 | 38 | 20 | 67 | 7 | 99 | 59 | 134 | 2 | 167 | 3 |
| 19 | | 14 | 29 | 39 | 13 | 68 | 9 | 101 | 7 | 135 | 9 | 168 | 8 |
| 20 | | 15 | 16 | 40 | 6 | 69 | 11 | 102 | 15 | 136 | 16 | 169 | 13 |
| 21 | | 16 | 3 | 41 | 0 | 70 | 14 | 103 | 23 | 137 | 23 | 170 | 18 |
| 22 | | 16 | 50 | 41 | 54 | 71 | 17 | 104 | 31 | 138 | 30 | 171 | 23 |
| 23 | | 17 | 37 | 42 | 48 | 72 | 21 | 105 | 39 | 139 | 37 | 172 | 28 |
| 24 | | 18 | 24 | 43 | 42 | 73 | 25 | 106 | 47 | 140 | 44 | 173 | 33 |
| 25 | | 19 | 11 | 44 | 37 | 54 | 29 | 107 | 56 | 141 | 51 | 174 | 37 |
| 26 | | 19 | 59 | 45 | 32 | 75 | 33 | 109 | 5 | 142 | 58 | 175 | 42 |
| 27 | | 20 | 47 | 46 | 27 | 76 | 37 | 110 | 14 | 144 | 4 | 176 | 47 |
| 28 | | 21 | 35 | 47 | 23 | 77 | 42 | 111 | 22 | 145 | 11 | 177 | 51 |
| 29 | | 22 | 23 | 48 | 19 | 78 | 47 | 112 | 31 | 146 | 17 | 178 | 56 |
| 30 | | 23 | 11 | 49 | 15 | 79 | 52 | 113 | 39 | 147 | 23 | 180 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 212 | 37 | 246 | 21 | 280 | 0 | 310 | 45 | 336 | 49 |
| 1 | 181 | 4 | 213 | 43 | 247 | 29 | 281 | 13 | 311 | 41 | 337 | 37 |
| 2 | 182 | 9 | 214 | 49 | 248 | 38 | 282 | 18 | 312 | 37 | 338 | 25 |
| 3 | 183 | 13 | 215 | 56 | 249 | 46 | 283 | 23 | 313 | 33 | 339 | 13 |
| 4 | 184 | 18 | 217 | 2 | 250 | 55 | 284 | 37 | 314 | 28 | 340 | 1 |
| 5 | 185 | 23 | 218 | 9 | 252 | 4 | 285 | 31 | 315 | 23 | 340 | 49 |
| 6 | 186 | 22 | 219 | 16 | 253 | 13 | 286 | 35 | 316 | 18 | 341 | 36 |
| 7 | 187 | 32 | 220 | 23 | 254 | 21 | 287 | 39 | 317 | 12 | 342 | 23 |
| 8 | 188 | 37 | 221 | 30 | 255 | 29 | 288 | 43 | 318 | 6 | 343 | 10 |
| 9 | 189 | 42 | 222 | 37 | 256 | 37 | 289 | 46 | 319 | 0 | 843 | 57 |
| 10 | 190 | 47 | 223 | 44 | 257 | 45 | 290 | 49 | 319 | 54 | 344 | 44 |
| 11 | 191 | 52 | 224 | 51 | 258 | 53 | 291 | 51 | 320 | 47 | 345 | 31 |
| 12 | 192 | 57 | 225 | 58 | 260 | 1 | 292 | 53 | 321 | 40 | 346 | 17 |
| 13 | 194 | 2 | 227 | 5 | 261 | 9 | 293 | 55 | 322 | 33 | 347 | 4 |
| 14 | 195 | 7 | 228 | 12 | 262 | 17 | 294 | 57 | 323 | 26 | 347 | 50 |
| 15 | 196 | 12 | 229 | 20 | 263 | 25 | 295 | 59 | 324 | 18 | 348 | 36 |
| 16 | 197 | 17 | 230 | 28 | 264 | 33 | 297 | 0 | 325 | 10 | 349 | 22 |
| 17 | 198 | 22 | 231 | 36 | 265 | 41 | 298 | 1 | 326 | 1 | 350 | 8 |
| 18 | 199 | 27 | 232 | 44 | 266 | 48 | 299 | 2 | 326 | 52 | 350 | 54 |
| 19 | 200 | 32 | 233 | 52 | 267 | 56 | 300 | 3 | 327 | 43 | 351 | 40 |
| 20 | 201 | 38 | 235 | 0 | 269 | 3 | 301 | 3 | 328 | 34 | 352 | 25 |
| 21 | 202 | 43 | 236 | 8 | 270 | 10 | 302 | 3 | 329 | 25 | 353 | 11 |
| 22 | 203 | 49 | 237 | 16 | 271 | 17 | 303 | 2 | 330 | 15 | 353 | 57 |
| 23 | 204 | 55 | 238 | 24 | 272 | 24 | 304 | 1 | 331 | 5 | 354 | 42 |
| 24 | 206 | 1 | 239 | 32 | 273 | 31 | 305 | 0 | 331 | 55 | 355 | 28 |
| 25 | 207 | 7 | 240 | 40 | 274 | 37 | 205 | 58 | 332 | 45 | 356 | 13 |
| 26 | 208 | 13 | 241 | 48 | 275 | 44 | 306 | 56 | 333 | 34 | 356 | 59 |
| 27 | 209 | 19 | 242 | 56 | 276 | 50 | 307 | 54 | 334 | 23 | 357 | 44 |
| 28 | 210 | 25 | 244 | 4 | 277 | 56 | 308 | 51 | 335 | 12 | 358 | 30 |
| 29 | 211 | 31 | 245 | 12 | 279 | 2 | 309 | 48 | 336 | 1 | 359 | 15 |
| 30 | 212 | 37 | 246 | 21 | 280 | 8 | 310 | 45 | 336 | 49 | 360 | 0 |

| G | | ♈ g. | ♈ m. | ♉ g. | ♉ m. | ♊ g. | ♊ m. | ♋ g. | ♋ m. | ♌ g. | ♌ m. | ♍ g. | ♍ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0 | 0 | 22 | 57 | 48 | 49 | 79 | 22 | 113 | 13 | 147 | 9 |
| 1 | | 0 | 44 | 23 | 45 | 49 | 46 | 80 | 28 | 114 | 22 | 148 | 16 |
| 2 | | 1 | 29 | 24 | 33 | 50 | 43 | 81 | 34 | 115 | 31 | 149 | 22 |
| 3 | | 2 | 14 | 25 | 22 | 51 | 40 | 82 | 40 | 116 | 39 | 150 | 29 |
| 4 | | 2 | 59 | 26 | 10 | 52 | 38 | 83 | 46 | 117 | 48 | 151 | 35 |
| 5 | | 3 | 44 | 26 | 59 | 53 | 35 | 84 | 52 | 118 | 56 | 152 | 41 |
| 6 | | 4 | 29 | 27 | 48 | 54 | 33 | 85 | 58 | 120 | 5 | 153 | 48 |
| 7 | | 5 | 14 | 28 | 37 | 55 | 31 | 87 | 5 | 121 | 13 | 154 | 54 |
| 8 | | 5 | 59 | 29 | 27 | 56 | 30 | 88 | 12 | 122 | 21 | 156 | 0 |
| 9 | | 6 | 44 | 30 | 17 | 57 | 29 | 89 | 19 | 123 | 29 | 157 | 6 |
| 10 | | 7 | 30 | 31 | 7 | 58 | 28 | 90 | 26 | 124 | 37 | 158 | 12 |
| 11 | | 8 | 15 | 31 | 57 | 59 | 28 | 91 | 33 | 125 | 46 | 159 | 18 |
| 12 | | 9 | 0 | 32 | 48 | 60 | 28 | 92 | 41 | 126 | 54 | 160 | 24 |
| 13 | | 9 | 46 | 33 | 39 | 61 | 29 | 93 | 49 | 128 | 3 | 161 | 30 |
| 14 | | 10 | 31 | 34 | 30 | 62 | 30 | 94 | 57 | 129 | 11 | 162 | 36 |
| 15 | | 11 | 17 | 35 | 21 | 63 | 31 | 96 | 5 | 130 | 19 | 163 | 41 |
| 16 | | 12 | 2 | 36 | 13 | 64 | 32 | 97 | 13 | 131 | 27 | 164 | 47 |
| 17 | | 12 | 48 | 37 | 5 | 65 | 34 | 98 | 21 | 132 | 35 | 165 | 52 |
| 18 | | 13 | 34 | 37 | 57 | 66 | 36 | 99 | 29 | 133 | 42 | 166 | 58 |
| 19 | | 14 | 20 | 38 | 50 | 67 | 38 | 100 | 37 | 134 | 50 | 168 | 3 |
| 20 | | 15 | 6 | 39 | 43 | 68 | 40 | 101 | 46 | 135 | 57 | 169 | 8 |
| 21 | | 15 | 52 | 40 | 36 | 69 | 43 | 102 | 54 | 137 | 5 | 170 | 14 |
| 22 | | 16 | 39 | 41 | 30 | 70 | 46 | 104 | 3 | 138 | 13 | 171 | 19 |
| 23 | | 17 | 25 | 42 | 24 | 71 | 50 | 105 | 11 | 139 | 20 | 172 | 24 |
| 24 | | 18 | 12 | 43 | 18 | 72 | 54 | 106 | 20 | 140 | 28 | 173 | 29 |
| 25 | | 18 | 59 | 44 | 12 | 73 | 58 | 107 | 29 | 141 | 35 | 174 | 34 |
| 26 | | 19 | 46 | 45 | 7 | 75 | 2 | 108 | 38 | 142 | 42 | 175 | 40 |
| 27 | | 20 | 34 | 46 | 2 | 76 | 7 | 109 | 47 | 143 | 49 | 176 | 45 |
| 28 | | 21 | 21 | 46 | 57 | 77 | 12 | 110 | 56 | 144 | 56 | 177 | 50 |
| 29 | | 22 | 9 | 47 | 53 | 78 | 17 | 112 | 5 | 146 | 3 | 178 | 55 |
| 30 | | 22 | 57 | 48 | 49 | 79 | 22 | 113 | 13 | 147 | 9 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 212 | 51 | 246 | 47 | 280 | 38 | 311 | 11 | 337 | 3 |
| 1 | 181 | 5 | 213 | 57 | 247 | 55 | 281 | 43 | 312 | 7 | 337 | 51 |
| 2 | 182 | 10 | 215 | 4 | 249 | 4 | 282 | 48 | 313 | 3 | 338 | 39 |
| 3 | 183 | 15 | 216 | 11 | 250 | 13 | 283 | 53 | 313 | 58 | 339 | 26 |
| 4 | 184 | 20 | 217 | 18 | 251 | 22 | 284 | 58 | 314 | 53 | 340 | 14 |
| 5 | 185 | 26 | 218 | 25 | 252 | 31 | 286 | 2 | 315 | 48 | 341 | 1 |
| 6 | 186 | 31 | 219 | 32 | 253 | 40 | 287 | 6 | 316 | 42 | 341 | 48 |
| 7 | 187 | 36 | 220 | 40 | 254 | 49 | 288 | 10 | 317 | 36 | 342 | 35 |
| 8 | 188 | 41 | 221 | 47 | 255 | 57 | 289 | 14 | 318 | 30 | 343 | 21 |
| 9 | 189 | 46 | 222 | 55 | 257 | 6 | 290 | 17 | 319 | 24 | 344 | 8 |
| 10 | 190 | 52 | 224 | 3 | 258 | 14 | 291 | 20 | 320 | 17 | 344 | 54 |
| 11 | 191 | 57 | 225 | 10 | 259 | 23 | 292 | 22 | 321 | 10 | 345 | 40 |
| 12 | 193 | 2 | 226 | 18 | 260 | 31 | 293 | 24 | 322 | 3 | 346 | 26 |
| 13 | 194 | 8 | 227 | 25 | 261 | 39 | 294 | 26 | 322 | 55 | 347 | 12 |
| 14 | 195 | 13 | 228 | 33 | 262 | 47 | 295 | 28 | 323 | 47 | 347 | 58 |
| 15 | 196 | 19 | 229 | 41 | 263 | 55 | 296 | 29 | 324 | 39 | 348 | 43 |
| 16 | 197 | 24 | 230 | 49 | 265 | 3 | 297 | 30 | 325 | 30 | 349 | 29 |
| 17 | 108 | 30 | 231 | 57 | 166 | 11 | 298 | 31 | 226 | 21 | 350 | 14 |
| 18 | 199 | 36 | 233 | 6 | 267 | 19 | 299 | 32 | 327 | 12 | 351 | 0 |
| 19 | 200 | 42 | 234 | 14 | 268 | 27 | 300 | 32 | 328 | 3 | 351 | 45 |
| 20 | 201 | 48 | 235 | 23 | 269 | 34 | 301 | 32 | 328 | 53 | 352 | 30 |
| 21 | 202 | 54 | 236 | 31 | 270 | 41 | 302 | 31 | 329 | 43 | 353 | 16 |
| 22 | 204 | 0 | 237 | 39 | 271 | 48 | 303 | 30 | 330 | 23 | 354 | 1 |
| 23 | 205 | 6 | 238 | 47 | 272 | 55 | 304 | 29 | 331 | 23 | 354 | 46 |
| 24 | 206 | 12 | 339 | 55 | 274 | 2 | 305 | 27 | 332 | 12 | 355 | 31 |
| 25 | 207 | 19 | 241 | 4 | 275 | 8 | 306 | 25 | 333 | 1 | 356 | 16 |
| 26 | 208 | 25 | 242 | 12 | 276 | 14 | 307 | 22 | 333 | 50 | 357 | 1 |
| 27 | 209 | 31 | 243 | 21 | 277 | 20 | 308 | 20 | 334 | 38 | 357 | 46 |
| 28 | 210 | 38 | 244 | 29 | 278 | 25 | 309 | 17 | 335 | 27 | 358 | 31 |
| 29 | 211 | 44 | 245 | 38 | 279 | 32 | 310 | 14 | 336 | 15 | 359 | 16 |
| 30 | 212 | 51 | 246 | 47 | 280 | 38 | 311 | 11 | 337 | 3 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 22 | 42 | 48 | 22 | 78 | 50 | 112 | 46 | 146 | 54 |
| 1 | | 0 | 44 | 23 | 30 | 49 | 18 | 79 | 56 | 113 | 55 | 148 | 1 |
| 2 | | 1 | 28 | 24 | 18 | 50 | 15 | 81 | 2 | 115 | 4 | 149 | 8 |
| 3 | | 2 | 13 | 25 | 6 | 51 | 12 | 82 | 8 | 116 | 13 | 150 | 15 |
| 4 | | 2 | 57 | 25 | 54 | 52 | 9 | 83 | 14 | 117 | 22 | 151 | 22 |
| 5 | | 3 | 42 | 26 | 42 | 53 | 7 | 84 | 20 | 118 | 31 | 152 | 29 |
| 6 | | 4 | 26 | 27 | 31 | 54 | 5 | 85 | 27 | 119 | 40 | 153 | 36 |
| 7 | | 5 | 11 | 28 | 20 | 55 | 3 | 86 | 34 | 120 | 49 | 154 | 43 |
| 8 | | 5 | 55 | 29 | 9 | 56 | 1 | 87 | 41 | 121 | 57 | 155 | 49 |
| 9 | | 6 | 40 | 29 | 58 | 57 | 0 | 88 | 48 | 123 | 6 | 156 | 56 |
| 10 | | 7 | 25 | 30 | 48 | 57 | 59 | 89 | 55 | 124 | 14 | 158 | 2 |
| 11 | | 8 | 9 | 31 | 38 | 58 | 59 | 91 | 2 | 125 | 23 | 159 | 9 |
| 12 | | 8 | 54 | 32 | 28 | 59 | 59 | 92 | 10 | 126 | 32 | 160 | 15 |
| 13 | | 9 | 39 | 33 | 18 | 60 | 59 | 93 | 18 | 127 | 41 | 161 | 21 |
| 14 | | 10 | 24 | 34 | 9 | 61 | 59 | 94 | 26 | 128 | 50 | 162 | 27 |
| 15 | | 11 | 9 | 35 | 0 | 63 | 0 | 95 | 34 | 129 | 58 | 163 | 33 |
| 16 | | 11 | 54 | 35 | 52 | 64 | 1 | 96 | 42 | 131 | 6 | 164 | 39 |
| 17 | | 12 | 39 | 36 | 44 | 65 | 3 | 97 | 50 | 132 | 14 | 165 | 45 |
| 18 | | 13 | 25 | 37 | 36 | 66 | 5 | 98 | 59 | 133 | 22 | 166 | 51 |
| 19 | | 14 | 10 | 38 | 28 | 67 | 7 | 100 | 8 | 134 | 30 | 167 | 57 |
| 20 | | 14 | 56 | 39 | 20 | 68 | 9 | 101 | 16 | 135 | 38 | 169 | 3 |
| 21 | | 15 | 42 | 40 | 13 | 69 | 12 | 102 | 25 | 136 | 46 | 170 | 9 |
| 22 | | 16 | 28 | 41 | 6 | 70 | 15 | 103 | 34 | 137 | 54 | 171 | 15 |
| 23 | | 17 | 14 | 41 | 59 | 71 | 18 | 104 | 43 | 139 | 2 | 172 | 21 |
| 24 | | 18 | 0 | 42 | 53 | 72 | 22 | 105 | 52 | 140 | 10 | 173 | 27 |
| 25 | | 18 | 47 | 43 | 47 | 73 | 26 | 107 | 1 | 141 | 18 | 174 | 32 |
| 26 | | 19 | 34 | 44 | 41 | 74 | 30 | 108 | 10 | 142 | 26 | 175 | 38 |
| 27 | | 20 | 21 | 45 | 36 | 75 | 35 | 109 | 19 | 143 | 33 | 176 | 44 |
| 28 | | 21 | 8 | 46 | 31 | 76 | 40 | 100 | 28 | 144 | 40 | 177 | 49 |
| 29 | | 21 | 55 | 47 | 26 | 77 | 45 | 111 | 37 | 145 | 47 | 178 | 55 |
| 30 | | 22 | 42 | 48 | 22 | 78 | 50 | 112 | 46 | 146 | 54 | 180 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 213 | 6 | 247 | 14 | 281 | 10 | 311 | 38 | 337 | 18 |
| 1 | 181 | 5 | 214 | 13 | 248 | 23 | 282 | 15 | 312 | 34 | 338 | 5 |
| 2 | 182 | 11 | 215 | 20 | 249 | 32 | 283 | 20 | 313 | 29 | 338 | 52 |
| 3 | 183 | 16 | 216 | 27 | 250 | 41 | 284 | 25 | 314 | 24 | 339 | 39 |
| 4 | 184 | 22 | 217 | 34 | 251 | 50 | 285 | 30 | 315 | 19 | 340 | 26 |
| 5 | 185 | 28 | 218 | 42 | 252 | 59 | 286 | 34 | 316 | 13 | 341 | 13 |
| 6 | 186 | 33 | 219 | 50 | 254 | 8 | 287 | 38 | 317 | 7 | 342 | 0 |
| 7 | 187 | 39 | 220 | 58 | 255 | 17 | 288 | 42 | 318 | 1 | 342 | 46 |
| 8 | 188 | 45 | 222 | 6 | 256 | 26 | 289 | 45 | 318 | 54 | 343 | 32 |
| 9 | 189 | 51 | 223 | 14 | 257 | 35 | 290 | 48 | 319 | 47 | 344 | 18 |
| 10 | 190 | 57 | 224 | 22 | 258 | 44 | 201 | 51 | 320 | 40 | 345 | 4 |
| 11 | 192 | 3 | 225 | 30 | 259 | 52 | 292 | 53 | 321 | 32 | 345 | 50 |
| 12 | 193 | 9 | 226 | 38 | 261 | 1 | 293 | 55 | 322 | 24 | 346 | 35 |
| 13 | 194 | 15 | 227 | 46 | 262 | 10 | 294 | 57 | 323 | 16 | 347 | 21 |
| 14 | 195 | 21 | 228 | 54 | 263 | 18 | 295 | 59 | 324 | 8 | 348 | 6 |
| 15 | 196 | 27 | 230 | 2 | 264 | 26 | 297 | 0 | 325 | 0 | 348 | 51 |
| 16 | 197 | 33 | 231 | 10 | 265 | 34 | 298 | 1 | 325 | 51 | 349 | 36 |
| 17 | 198 | 39 | 232 | 19 | 266 | 42 | 299 | 1 | 326 | 42 | 350 | 21 |
| 18 | 199 | 45 | 233 | 28 | 267 | 50 | 300 | 1 | 327 | 32 | 351 | 6 |
| 19 | 200 | 51 | 234 | 37 | 268 | 58 | 301 | 1 | 328 | 22 | 351 | 51 |
| 20 | 201 | 58 | 235 | 64 | 270 | 5 | 302 | 1 | 329 | 12 | 352 | 25 |
| 21 | 203 | 4 | 236 | 54 | 271 | 12 | 303 | 0 | 330 | 2 | 353 | 20 |
| 22 | 204 | 11 | 238 | 3 | 272 | 19 | 303 | 59 | 330 | 51 | 354 | 5 |
| 23 | 205 | 17 | 239 | 11 | 273 | 26 | 304 | 58 | 331 | 40 | 354 | 49 |
| 24 | 206 | 24 | 240 | 20 | 274 | 33 | 305 | 55 | 332 | 29 | 355 | 34 |
| 25 | 207 | 31 | 241 | 29 | 275 | 40 | 306 | 53 | 333 | 18 | 356 | 18 |
| 26 | 208 | 38 | 242 | 38 | 276 | 46 | 307 | 51 | 334 | 6 | 357 | 3 |
| 27 | 209 | 45 | 243 | 47 | 277 | 52 | 308 | 48 | 334 | 54 | 357 | 47 |
| 28 | 210 | 52 | 244 | 56 | 278 | 58 | 309 | 45 | 335 | 42 | 358 | 32 |
| 29 | 211 | 59 | 246 | 5 | 280 | 4 | 310 | 42 | 336 | 30 | 359 | 16 |
| 30 | 213 | 6 | 247 | 14 | 281 | 10 | 311 | 38 | 337 | 18 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m |
| 0 | | 0 | 0 | 22 | 27 | 47 | 54 | 78 | 18 | 112 | 18 | 146 | 39 |
| 1 | | 0 | 43 | 23 | 14 | 48 | 50 | 79 | 24 | 113 | 28 | 147 | 47 |
| 2 | | 1 | 27 | 24 | 1 | 49 | 47 | 80 | 30 | 114 | 37 | 148 | 55 |
| 3 | | 2 | 11 | 24 | 48 | 50 | 44 | 81 | 36 | 115 | 47 | 150 | 2 |
| 4 | | 2 | 55 | 25 | 36 | 51 | 41 | 82 | 42 | 116 | 56 | 151 | 10 |
| 5 | | 3 | 39 | 26 | 24 | 52 | 38 | 83 | 48 | 118 | 5 | 152 | 17 |
| 6 | | 4 | 23 | 27 | 13 | 53 | 36 | 84 | 55 | 119 | 15 | 153 | 24 |
| 7 | | 5 | 7 | 28 | 2 | 54 | 34 | 86 | 2 | 120 | 24 | 154 | 31 |
| 8 | | 5 | 51 | 28 | 51 | 55 | 32 | 87 | 9 | 121 | 33 | 155 | 38 |
| 9 | | 6 | 35 | 29 | 40 | 56 | 30 | 88 | 16 | 122 | 42 | 156 | 45 |
| 10 | | 7 | 20 | 30 | 29 | 57 | 29 | 89 | 24 | 123 | 51 | 157 | 52 |
| 11 | | 8 | 4 | 31 | 19 | 58 | 29 | 90 | 32 | 125 | 1 | 158 | 59 |
| 12 | | 8 | 48 | 32 | 9 | 59 | 29 | 91 | 40 | 126 | 10 | 160 | 6 |
| 13 | | 9 | 33 | 32 | 59 | 60 | 29 | 92 | 48 | 127 | 19 | 161 | 13 |
| 14 | | 10 | 17 | 33 | 49 | 61 | 29 | 93 | 56 | 128 | 28 | 162 | 20 |
| 15 | | 11 | 2 | 34 | 39 | 62 | 30 | 95 | 4 | 129 | 37 | 163 | 26 |
| 16 | | 11 | 46 | 35 | 30 | 63 | 31 | 96 | 12 | 130 | 46 | 164 | 33 |
| 17 | | 12 | 31 | 36 | 21 | 64 | 32 | 97 | 21 | 131 | 54 | 165 | 39 |
| 18 | | 13 | 16 | 37 | 13 | 65 | 34 | 98 | 29 | 133 | 3 | 166 | 46 |
| 19 | | 14 | 1 | 38 | 5 | 66 | 36 | 99 | 38 | 134 | 11 | 167 | 52 |
| 20 | | 14 | 46 | 38 | 57 | 67 | 38 | 100 | 47 | 135 | 19 | 168 | 58 |
| 21 | | 15 | 31 | 39 | 49 | 68 | 41 | 101 | 56 | 136 | 28 | 170 | 5 |
| 22 | | 16 | 17 | 40 | 42 | 69 | 44 | 103 | 5 | 137 | 36 | 171 | 11 |
| 23 | | 17 | 3 | 41 | 35 | 70 | 47 | 104 | 14 | 138 | 44 | 172 | 17 |
| 24 | | 17 | 49 | 42 | 28 | 71 | 50 | 105 | 23 | 139 | 52 | 173 | 23 |
| 25 | | 18 | 35 | 43 | 21 | 72 | 54 | 106 | 32 | 141 | 0 | 174 | 29 |
| 26 | | 19 | 21 | 44 | 15 | 73 | 58 | 107 | 41 | 142 | 8 | 175 | 36 |
| 27 | | 20 | 7 | 45 | 9 | 75 | 3 | 108 | 50 | 143 | 16 | 176 | 42 |
| 28 | | 20 | 54 | 46 | 4 | 76 | 8 | 109 | 59 | 144 | 24 | 177 | 48 |
| 29 | | 21 | 40 | 46 | 59 | 77 | 13 | 111 | 8 | 145 | 32 | 178 | 54 |
| 30 | | 22 | 27 | 47 | 54 | 78 | 18 | 112 | 18 | 146 | 39 | 180 | 0 |

| G | ♎ g. m. | | ♏ g. m. | | ♐ g. m. | | ♑ g. m. | | ♒ g. m. | | ♓ g. m. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 213 | 21 | 247 | 42 | 281 | 42 | 312 | 6 | 337 | 33 |
| 1 | 181 | 6 | 214 | 28 | 248 | 52 | 282 | 47 | 313 | 1 | 338 | 20 |
| 2 | 182 | 12 | 215 | 36 | 250 | 1 | 283 | 52 | 313 | 56 | 339 | 6 |
| 3 | 183 | 18 | 216 | 44 | 251 | 10 | 284 | 57 | 314 | 50 | 339 | 53 |
| 4 | 184 | 24 | 217 | 52 | 252 | 19 | 286 | 2 | 315 | 4[illegible] | 340 | 39 |
| 5 | 185 | 31 | 219 | 0 | 253 | 28 | 287 | 6 | 316 | 3[illegible] | 341 | 25 |
| 6 | 186 | 37 | 220 | 8 | 254 | 37 | 288 | 10 | 317 | 32 | 342 | 11 |
| 7 | 187 | 43 | 221 | 16 | 255 | 46 | 289 | 13 | 318 | 29 | 342 | 57 |
| 8 | 188 | 49 | 222 | 24 | 256 | 55 | 290 | 16 | 319 | 18 | 343 | 43 |
| 9 | 189 | 55 | 223 | 32 | 258 | 4 | 291 | 19 | 320 | 11 | 344 | 29 |
| 10 | 191 | 2 | 224 | 41 | 259 | 13 | 292 | 22 | 321 | 3 | 345 | 14 |
| 11 | 192 | 8 | 225 | 49 | 260 | 22 | 283 | 24 | 321 | 55 | 345 | 59 |
| 12 | 193 | 14 | 226 | 57 | 261 | 31 | 294 | 26 | 322 | 47 | 346 | 44 |
| 13 | 194 | 21 | 228 | 6 | 262 | 39 | 295 | 28 | 323 | 38 | 347 | 29 |
| 14 | 195 | 27 | 229 | 14 | 263 | 48 | 296 | 29 | 324 | 30 | 348 | 14 |
| 15 | 196 | 34 | 230 | 23 | 264 | 56 | 297 | 30 | 325 | 19 | 348 | 58 |
| 16 | 197 | 40 | 231 | 32 | 266 | 4 | 298 | 31 | 326 | 11 | 349 | 43 |
| 17 | 198 | 47 | 232 | 41 | 267 | 12 | 299 | 31 | 327 | 1 | 350 | 27 |
| 18 | 199 | 54 | 233 | 50 | 268 | 20 | 300 | 31 | 327 | 51 | 351 | 12 |
| 19 | 201 | 1 | 234 | 59 | 269 | 28 | 301 | 31 | 328 | 41 | 351 | 56 |
| 20 | 202 | 8 | 236 | 9 | 270 | 36 | 302 | 31 | 329 | 31 | 352 | 50 |
| 21 | 203 | 15 | 237 | 18 | 271 | 44 | 303 | 30 | 330 | 20 | 353 | 25 |
| 22 | 204 | 22 | 238 | 27 | 272 | 51 | 304 | 28 | 331 | 9 | 354 | 9 |
| 23 | 205 | 29 | 239 | 36 | 273 | 58 | 305 | 26 | 331 | 58 | 354 | 53 |
| 24 | 206 | 36 | 240 | 45 | 274 | 5 | 306 | 24 | 332 | 47 | 355 | 37 |
| 25 | 207 | 43 | 241 | 55 | 276 | 12 | 307 | 22 | 333 | 36 | 356 | 21 |
| 26 | 208 | 50 | 243 | 4 | 277 | 18 | 308 | 19 | 334 | 24 | 357 | 5 |
| 27 | 209 | 58 | 244 | 13 | 278 | 24 | 309 | 16 | 335 | 11 | 357 | 49 |
| 28 | 211 | 5 | 245 | 23 | 279 | 30 | 310 | 13 | 335 | 59 | 358 | 33 |
| 29 | 212 | 13 | 246 | 32 | 280 | 36 | 311 | 10 | 336 | 46 | 359 | 17 |
| 30 | 213 | 21 | 247 | 42 | 181 | 42 | 312 | 6 | 337 | 33 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 |
| 1 | | 0 | 45 | 24 | 14 | 50 | 38 | 81 | 29 | 115 | 13 | 148 | 43 |
| 2 | | 1 | 31 | 25 | 3 | 51 | 36 | 82 | 35 | 116 | 21 | 149 | 49 |
| 3 | | 2 | 17 | 25 | 52 | 52 | 34 | 83 | 41 | 117 | 29 | 150 | 54 |
| 4 | | 3 | 3 | 26 | 41 | 53 | 32 | 84 | 47 | 118 | 37 | 152 | 0 |
| 5 | | 3 | 49 | 27 | 31 | 54 | 30 | 85 | 53 | 119 | 45 | 153 | 5 |
| 6 | | 4 | 35 | 28 | 21 | 55 | 29 | 86 | 59 | 120 | 53 | 154 | 11 |
| 7 | | 5 | 21 | 29 | 11 | 56 | 28 | 88 | 6 | 122 | 1 | 155 | 16 |
| 8 | | 6 | 7 | 30 | 2 | 57 | 27 | 89 | 13 | 123 | 8 | 156 | 21 |
| 9 | | 6 | 53 | 30 | 53 | 58 | 26 | 90 | 20 | 124 | 16 | 157 | 26 |
| 10 | | 7 | 39 | 31 | 44 | 59 | 26 | 91 | 27 | 125 | 23 | 158 | 31 |
| 11 | | 8 | 25 | 32 | 35 | 60 | 26 | 92 | 34 | 126 | 31 | 159 | 36 |
| 12 | | 9 | 11 | 33 | 26 | 61 | 27 | 93 | 41 | 127 | 38 | 160 | 41 |
| 13 | | 9 | 58 | 34 | 18 | 62 | 28 | 94 | 49 | 128 | 46 | 161 | 46 |
| 14 | | 10 | 44 | 35 | 10 | 63 | 29 | 95 | 56 | 129 | 53 | 162 | 51 |
| 15 | | 11 | 31 | 36 | 2 | 64 | 30 | 97 | 4 | 131 | 0 | 163 | 55 |
| 16 | | 12 | 17 | 36 | 55 | 65 | 32 | 98 | 12 | 132 | 7 | 165 | 0 |
| 17 | | 13 | 4 | 37 | 48 | 66 | 34 | 99 | 20 | 133 | 14 | 166 | 4 |
| 18 | | 13 | 51 | 38 | 41 | 67 | 36 | 100 | 28 | 134 | 21 | 167 | 9 |
| 19 | | 14 | 38 | 39 | 35 | 68 | 38 | 101 | 36 | 135 | 28 | 168 | 13 |
| 20 | | 15 | 25 | 40 | 29 | 69 | 41 | 102 | 44 | 136 | 34 | 169 | 17 |
| 21 | | 16 | 12 | 41 | 23 | 70 | 44 | 103 | 52 | 137 | 41 | 170 | 22 |
| 22 | | 17 | 0 | 42 | 27 | 71 | 47 | 105 | 0 | 138 | 48 | 171 | 26 |
| 23 | | 17 | 47 | 43 | 11 | 72 | 51 | 106 | 8 | 139 | 54 | 172 | 31 |
| 24 | | 18 | 35 | 44 | 6 | 73 | 55 | 107 | 16 | 141 | 1 | 173 | 35 |
| 25 | | 10 | 23 | 45 | 1 | 74 | 59 | 108 | 24 | 142 | 7 | 174 | 39 |
| 26 | | 20 | 11 | 45 | 56 | 76 | 3 | 109 | 32 | 143 | 13 | 175 | 44 |
| 27 | | 20 | 59 | 46 | 52 | 77 | 8 | 110 | 40 | 144 | 19 | 176 | 48 |
| 28 | | 21 | 48 | 47 | 48 | 78 | 13 | 111 | 48 | 145 | 25 | 177 | 52 |
| 29 | | 22 | 36 | 48 | 44 | 79 | 18 | 112 | 56 | 146 | 31 | 178 | 56 |
| 30 | | 23 | 25 | 49 | 41 | 80 | 23 | 114 | 5 | 147 | 37 | 180 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 |
| 1 | 181 | 4 | 213 | 29 | 247 | 4 | 280 | 42 | 311 | 16 | 337 | 24 |
| 2 | 182 | 8 | 214 | 35 | 248 | 12 | 281 | 47 | 312 | 12 | 338 | 12 |
| 3 | 183 | 12 | 215 | 41 | 249 | 20 | 282 | 52 | 313 | 8 | 339 | 1 |
| 4 | 184 | 16 | 216 | 47 | 250 | 28 | 283 | 57 | 314 | 4 | 339 | 49 |
| 5 | 185 | 21 | 217 | 53 | 251 | 36 | 285 | 1 | 314 | 59 | 340 | 37 |
| 6 | 186 | 25 | 218 | 59 | 252 | 44 | 286 | 5 | 315 | 54 | 341 | 25 |
| 7 | 187 | 29 | 220 | 6 | 253 | 52 | 287 | 9 | 316 | 49 | 342 | 13 |
| 8 | 188 | 34 | 221 | 12 | 255 | 0 | 288 | 13 | 317 | 43 | 343 | 0 |
| 9 | 189 | 38 | 222 | 19 | 256 | 8 | 289 | 16 | 318 | 37 | 843 | 48 |
| 10 | 190 | 43 | 223 | 26 | 257 | 16 | 290 | 19 | 319 | 31 | 344 | 35 |
| 11 | 191 | 47 | 224 | 32 | 258 | 24 | 291 | 22 | 320 | 25 | 345 | 22 |
| 12 | 192 | 51 | 225 | 39 | 259 | 32 | 292 | 24 | 321 | 19 | 346 | 9 |
| 13 | 193 | 56 | 226 | 46 | 260 | 40 | 293 | 26 | 322 | 12 | 346 | 56 |
| 14 | 195 | 0 | 227 | 53 | 261 | 48 | 294 | 28 | 323 | 5 | 347 | 43 |
| 15 | 196 | 5 | 229 | 0 | 262 | 56 | 295 | 30 | 323 | 58 | 348 | 29 |
| 16 | 197 | 9 | 230 | 7 | 264 | 4 | 296 | 31 | 324 | 50 | 349 | 16 |
| 17 | 198 | 14 | 231 | 14 | 265 | 11 | 297 | 32 | 325 | 42 | 350 | 2 |
| 18 | 199 | 19 | 232 | 22 | 266 | 19 | 298 | 33 | 326 | 34 | 350 | 49 |
| 19 | 200 | 24 | 233 | 29 | 267 | 26 | 299 | 34 | 327 | 25 | 351 | 35 |
| 20 | 201 | 29 | 234 | 37 | 268 | 33 | 300 | 34 | 328 | 16 | 352 | 21 |
| 21 | 202 | 34 | 235 | 44 | 269 | 40 | 301 | 34 | 329 | 7 | 353 | 7 |
| 22 | 203 | 39 | 236 | 52 | 270 | 47 | 302 | 33 | 329 | 58 | 353 | 53 |
| 23 | 204 | 44 | 237 | 59 | 271 | 54 | 303 | 32 | 330 | 49 | 354 | 39 |
| 24 | 205 | 49 | 239 | 7 | 273 | 1 | 304 | 31 | 331 | 39 | 355 | 25 |
| 25 | 206 | 55 | 240 | 15 | 274 | 7 | 305 | 30 | 332 | 29 | 356 | 11 |
| 26 | 208 | 0 | 241 | 23 | 275 | 13 | 306 | 28 | 333 | 19 | 356 | 57 |
| 27 | 209 | 6 | 242 | 31 | 276 | 19 | 307 | 26 | 334 | 8 | 357 | 43 |
| 28 | 210 | 11 | 243 | 39 | 277 | 25 | 308 | 24 | 334 | 57 | 358 | 29 |
| 29 | 211 | 17 | 244 | 47 | 278 | 31 | 309 | 22 | 335 | 46 | 359 | 15 |
| 30 | 212 | 23 | 245 | 55 | 279 | 37 | 310 | 19 | 336 | 35 | 360 | 0 |

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|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. |
| 0 | | 0 0 | 23 11 | 49 15 | 79 52 | 113 39 | 147 23 |
| 1 | | 0 45 | 23 59 | 50 12 | 80 58 | 114 48 | 148 29 |
| 2 | | 1 30 | 24 48 | 51 9 | 82 4 | 115 56 | 149 35 |
| 3 | | 2 16 | 25 37 | 52 6 | 83 10 | 117 4 | 150 41 |
| 4 | | 3 1 | 26 26 | 53 4 | 84 16 | 118 12 | 151 47 |
| 5 | | 3 47 | 27 15 | 54 2 | 85 23 | 119 20 | 152 53 |
| 6 | | 4 32 | 28 5 | 55 0 | 86 29 | 120 28 | 153 59 |
| 7 | | 5 18 | 28 55 | 55 59 | 87 36 | 121 36 | 155 5 |
| 8 | | 6 3 | 29 45 | 56 58 | 88 43 | 122 44 | 156 11 |
| 9 | | 6 49 | 30 35 | 57 57 | 89 50 | 123 52 | 157 17 |
| 10 | | 7 35 | 31 26 | 58 57 | 90 57 | 125 0 | 158 22 |
| 11 | | 8 20 | 32 17 | 59 57 | 92 4 | 126 8 | 159 28 |
| 12 | | 9 6 | 33 8 | 60 58 | 93 12 | 127 16 | 160 33 |
| 13 | | 9 52 | 33 59 | 61 59 | 94 19 | 128 24 | 161 38 |
| 14 | | 10 38 | 34 50 | 63 0 | 95 27 | 129 32 | 162 43 |
| 15 | | 11 24 | 35 42 | 64 1 | 96 35 | 130 40 | 163 48 |
| 16 | | 12 10 | 36 34 | 65 3 | 97 43 | 131 48 | 164 53 |
| 17 | | 12 56 | 37 27 | 66 5 | 93 51 | 132 55 | 165 58 |
| 18 | | 13 43 | 38 20 | 67 7 | 99 59 | 134 2 | 167 3 |
| 19 | | 14 25 | 39 13 | 68 9 | 101 7 | 135 9 | 168 8 |
| 20 | | 15 16 | 40 6 | 69 11 | 102 15 | 136 16 | 169 13 |
| 21 | | 16 3 | 41 0 | 70 14 | 103 23 | 137 23 | 170 18 |
| 22 | | 16 50 | 41 54 | 71 17 | 104 31 | 138 30 | 171 23 |
| 23 | | 17 37 | 42 48 | 72 21 | 105 39 | 139 37 | 172 28 |
| 24 | | 18 24 | 43 42 | 73 25 | 106 47 | 140 44 | 173 33 |
| 25 | | 19 11 | 44 37 | 54 29 | 107 56 | 141 51 | 174 37 |
| 26 | | 19 55 | 45 32 | 75 33 | 109 5 | 142 58 | 175 42 |
| 27 | | 20 47 | 46 27 | 76 37 | 110 14 | 144 4 | 176 47 |
| 28 | | 21 35 | 47 23 | 77 42 | 111 22 | 145 11 | 177 51 |
| 29 | | 22 23 | 48 19 | 78 47 | 112 31 | 146 17 | 178 56 |
| 30 | | 23 11 | 49 15 | 79 52 | 113 39 | 147 23 | 180 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 212 | 37 | 246 | 21 | 280 | 8 | 310 | 45 | 336 | 49 |
| 1 | 181 | 4 | 213 | 43 | 247 | 29 | 281 | 13 | 311 | 41 | 337 | 37 |
| 2 | 182 | 9 | 214 | 49 | 248 | 38 | 282 | 18 | 312 | 37 | 338 | 25 |
| 3 | 183 | 13 | 215 | 56 | 249 | 46 | 283 | 23 | 313 | 33 | 339 | 13 |
| 4 | 184 | 18 | 217 | 2 | 250 | 55 | 284 | 37 | 314 | 28 | 340 | 1 |
| 5 | 185 | 23 | 218 | 9 | 252 | 4 | 285 | 31 | 315 | 23 | 340 | 49 |
| 6 | 186 | 22 | 219 | 16 | 253 | 13 | 286 | 35 | 316 | 18 | 341 | 36 |
| 7 | 187 | 32 | 220 | 23 | 254 | 21 | 287 | 39 | 317 | 12 | 342 | 23 |
| 8 | 188 | 37 | 221 | 30 | 255 | 29 | 288 | 43 | 318 | 6 | 343 | 10 |
| 9 | 189 | 42 | 222 | 37 | 256 | 37 | 289 | 46 | 319 | 0 | 343 | 57 |
| 10 | 190 | 47 | 223 | 44 | 257 | 45 | 290 | 49 | 319 | 54 | 344 | 44 |
| 11 | 191 | 52 | 224 | 51 | 258 | 53 | 291 | 51 | 320 | 47 | 345 | 31 |
| 12 | 192 | 57 | 225 | 58 | 260 | 1 | 292 | 53 | 321 | 40 | 346 | 17 |
| 13 | 194 | 2 | 227 | 5 | 261 | 9 | 293 | 55 | 322 | 33 | 347 | 4 |
| 14 | 195 | 7 | 228 | 12 | 262 | 17 | 294 | 57 | 323 | 26 | 347 | 50 |
| 15 | 196 | 12 | 229 | 20 | 263 | 25 | 295 | 59 | 324 | 18 | 348 | 36 |
| 16 | 197 | 17 | 230 | 28 | 264 | 33 | 297 | 0 | 325 | 10 | 349 | 22 |
| 17 | 198 | 22 | 231 | 36 | 265 | 41 | 298 | 1 | 326 | 1 | 350 | 8 |
| 18 | 199 | 27 | 232 | 44 | 266 | 48 | 299 | 2 | 326 | 52 | 350 | 54 |
| 19 | 200 | 32 | 233 | 52 | 267 | 56 | 300 | 3 | 327 | 43 | 351 | 40 |
| 20 | 201 | 38 | 235 | 0 | 269 | 3 | 301 | 3 | 328 | 34 | 352 | 25 |
| 21 | 202 | 43 | 236 | 8 | 270 | 10 | 302 | 3 | 329 | 25 | 353 | 11 |
| 22 | 203 | 49 | 237 | 16 | 271 | 17 | 303 | 2 | 330 | 15 | 353 | 57 |
| 23 | 204 | 55 | 238 | 24 | 272 | 24 | 304 | 1 | 331 | 5 | 354 | 42 |
| 24 | 206 | 1 | 239 | 32 | 273 | 31 | 305 | 0 | 331 | 55 | 355 | 28 |
| 25 | 207 | 7 | 240 | 40 | 274 | 37 | 205 | 58 | 332 | 45 | 356 | 13 |
| 26 | 208 | 13 | 241 | 48 | 275 | 44 | 306 | 56 | 333 | 34 | 356 | 59 |
| 27 | 209 | 19 | 242 | 56 | 276 | 50 | 307 | 54 | 334 | 23 | 357 | 44 |
| 28 | 210 | 25 | 244 | 4 | 277 | 56 | 308 | 51 | 335 | 12 | 358 | 30 |
| 29 | 211 | 31 | 245 | 12 | 279 | 2 | 309 | 48 | 336 | 1 | 359 | 15 |
| 30 | 212 | 37 | 246 | 21 | 280 | 8 | 310 | 45 | 336 | 49 | 360 | 0 |

| G | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 22 | 57 | 48 | 49 | 79 | 22 | 113 | 13 | 147 | 9 |
| 1 | | 0 | 44 | 23 | 45 | 49 | 46 | 80 | 28 | 114 | 22 | 148 | 16 |
| 2 | | 1 | 29 | 24 | 33 | 50 | 43 | 81 | 34 | 115 | 31 | 149 | 22 |
| 3 | | 2 | 14 | 25 | 22 | 51 | 40 | 82 | 40 | 116 | 39 | 150 | 29 |
| 4 | | 2 | 59 | 26 | 10 | 52 | 38 | 83 | 46 | 117 | 48 | 151 | 35 |
| 5 | | 3 | 44 | 26 | 59 | 53 | 35 | 84 | 52 | 118 | 56 | 152 | 41 |
| 6 | | 4 | 29 | 27 | 48 | 54 | 33 | 85 | 58 | 120 | 5 | 153 | 48 |
| 7 | | 5 | 14 | 28 | 37 | 55 | 31 | 87 | 5 | 121 | 13 | 154 | 54 |
| 8 | | 5 | 59 | 29 | 27 | 56 | 30 | 88 | 12 | 122 | 21 | 156 | 0 |
| 9 | | 6 | 44 | 30 | 17 | 57 | 29 | 89 | 19 | 123 | 29 | 157 | 6 |
| 10 | | 7 | 30 | 31 | 7 | 58 | 28 | 90 | 26 | 124 | 37 | 158 | 12 |
| 11 | | 8 | 15 | 31 | 57 | 59 | 28 | 91 | 33 | 125 | 46 | 159 | 18 |
| 12 | | 9 | 0 | 32 | 48 | 60 | 28 | 92 | 41 | 126 | 54 | 160 | 24 |
| 13 | | 9 | 46 | 33 | 39 | 61 | 29 | 93 | 49 | 128 | 3 | 161 | 30 |
| 14 | | 10 | 31 | 34 | 30 | 62 | 30 | 94 | 57 | 129 | 11 | 162 | 36 |
| 15 | | 11 | 17 | 35 | 21 | 63 | 31 | 96 | 5 | 130 | 19 | 163 | 41 |
| 16 | | 12 | 2 | 36 | 13 | 64 | 32 | 97 | 13 | 131 | 27 | 164 | 47 |
| 17 | | 12 | 48 | 37 | 5 | 65 | 34 | 98 | 21 | 132 | 35 | 165 | 52 |
| 18 | | 13 | 34 | 37 | 57 | 66 | 36 | 99 | 29 | 133 | 42 | 166 | 58 |
| 19 | | 14 | 20 | 38 | 50 | 67 | 38 | 100 | 37 | 134 | 50 | 168 | 3 |
| 20 | | 15 | 6 | 39 | 43 | 68 | 40 | 101 | 46 | 135 | 57 | 169 | 8 |
| 21 | | 15 | 52 | 40 | 36 | 69 | 43 | 102 | 54 | 137 | 5 | 170 | 14 |
| 22 | | 16 | 39 | 41 | 30 | 70 | 46 | 104 | 3 | 138 | 13 | 171 | 19 |
| 23 | | 17 | 25 | 42 | 24 | 71 | 50 | 105 | 11 | 139 | 20 | 172 | 24 |
| 24 | | 18 | 12 | 43 | 18 | 72 | 54 | 106 | 20 | 140 | 28 | 173 | 29 |
| 25 | | 18 | 59 | 44 | 12 | 73 | 58 | 107 | 29 | 141 | 35 | 174 | 34 |
| 26 | | 19 | 46 | 45 | 7 | 75 | 2 | 108 | 38 | 142 | 42 | 175 | 40 |
| 27 | | 20 | 34 | 46 | 2 | 76 | 7 | 109 | 47 | 143 | 49 | 176 | 45 |
| 28 | | 21 | 21 | 46 | 57 | 77 | 12 | 110 | 56 | 144 | 56 | 177 | 50 |
| 29 | | 22 | 9 | 47 | 53 | 78 | 17 | 112 | 5 | 146 | 3 | 178 | 55 |
| 30 | | 22 | 57 | 48 | 49 | 79 | 22 | 113 | 13 | 147 | 9 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 212 | 51 | 246 | 47 | 280 | 38 | 311 | 11 | 337 | 3 |
| 1 | 181 | 5 | 213 | 57 | 247 | 55 | 281 | 43 | 312 | 7 | 337 | 51 |
| 2 | 182 | 10 | 215 | 4 | 249 | 4 | 282 | 48 | 313 | 3 | 338 | 39 |
| 3 | 183 | 15 | 216 | 11 | 250 | 13 | 283 | 53 | 313 | 58 | 339 | 26 |
| 4 | 184 | 20 | 217 | 18 | 251 | 22 | 284 | 58 | 314 | 53 | 340 | 14 |
| 5 | 185 | 26 | 218 | 25 | 252 | 31 | 286 | 2 | 315 | 48 | 341 | 1 |
| 6 | 186 | 31 | 219 | 32 | 253 | 40 | 287 | 6 | 316 | 42 | 341 | 48 |
| 7 | 187 | 36 | 220 | 40 | 254 | 49 | 288 | 10 | 317 | 36 | 342 | 35 |
| 8 | 188 | 41 | 221 | 47 | 255 | 57 | 289 | 14 | 318 | 30 | 343 | 21 |
| 9 | 189 | 46 | 222 | 55 | 257 | 6 | 290 | 17 | 319 | 24 | 344 | 8 |
| 10 | 190 | 52 | 224 | 3 | 258 | 14 | 291 | 20 | 320 | 17 | 344 | 54 |
| 11 | 191 | 57 | 225 | 10 | 259 | 23 | 292 | 22 | 321 | 10 | 345 | 40 |
| 12 | 193 | 2 | 226 | 18 | 260 | 31 | 293 | 24 | 322 | 3 | 346 | 26 |
| 13 | 194 | 8 | 227 | 25 | 261 | 39 | 294 | 26 | 322 | 55 | 347 | 12 |
| 14 | 195 | 13 | 228 | 33 | 262 | 47 | 295 | 28 | 323 | 47 | 347 | 58 |
| 15 | 196 | 19 | 229 | 41 | 263 | 55 | 296 | 29 | 324 | 39 | 348 | 43 |
| 16 | 197 | 24 | 230 | 49 | 265 | 3 | 297 | 30 | 325 | 30 | 349 | 29 |
| 17 | 198 | 30 | 231 | 57 | 166 | 11 | 298 | 31 | 326 | 21 | 350 | 14 |
| 18 | 199 | 36 | 233 | 6 | 267 | 19 | 299 | 32 | 327 | 12 | 351 | 0 |
| 19 | 200 | 42 | 234 | 14 | 268 | 27 | 300 | 32 | 328 | 3 | 351 | 45 |
| 20 | 201 | 48 | 235 | 23 | 269 | 34 | 301 | 32 | 328 | 53 | 352 | 30 |
| 21 | 202 | 54 | 236 | 31 | 270 | 41 | 302 | 31 | 329 | 43 | 353 | 16 |
| 22 | 204 | 0 | 237 | 39 | 271 | 48 | 303 | 30 | 330 | 23 | 354 | 1 |
| 23 | 205 | 6 | 238 | 47 | 272 | 55 | 304 | 29 | 331 | 23 | 354 | 45 |
| 24 | 206 | 12 | 339 | 55 | 274 | 2 | 305 | 27 | 332 | 12 | 355 | 31 |
| 25 | 207 | 19 | 241 | 4 | 275 | 8 | 306 | 25 | 333 | 1 | 356 | 16 |
| 26 | 208 | 25 | 242 | 12 | 276 | 14 | 307 | 22 | 333 | 50 | 357 | 1 |
| 27 | 209 | 31 | 243 | 21 | 277 | 20 | 308 | 20 | 334 | 38 | 357 | 46 |
| 28 | 210 | 38 | 244 | 29 | 278 | 25 | 309 | 17 | 335 | 27 | 358 | 31 |
| 29 | 211 | 44 | 245 | 38 | 279 | 32 | 310 | 14 | 336 | 15 | 359 | 16 |
| 30 | 212 | 51 | 246 | 47 | 280 | 38 | 311 | 11 | 337 | 3 | 360 | 0 |

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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 22 | 42 | 48 | 22 | 78 | 50 | 112 | 40 | 146 | 54 |
| 1 | 0 | 44 | 23 | 30 | 49 | 18 | 79 | 56 | 113 | 55 | 148 | 1 |
| 2 | 1 | 28 | 24 | 18 | 50 | 15 | 81 | 2 | 115 | 4 | 149 | 8 |
| 3 | 2 | 13 | 25 | 6 | 51 | 12 | 82 | 8 | 116 | 13 | 150 | 15 |
| 4 | 2 | 57 | 25 | 54 | 52 | 9 | 83 | 14 | 117 | 22 | 151 | 22 |
| 5 | 3 | 42 | 26 | 42 | 53 | 7 | 84 | 20 | 118 | 31 | 152 | 29 |
| 6 | 4 | 26 | 27 | 31 | 54 | 5 | 85 | 27 | 119 | 40 | 153 | 36 |
| 7 | 5 | 11 | 28 | 20 | 55 | 3 | 86 | 34 | 120 | 49 | 154 | 43 |
| 8 | 5 | 55 | 29 | 9 | 56 | 1 | 87 | 41 | 121 | 57 | 155 | 49 |
| 9 | 6 | 40 | 29 | 58 | 57 | 0 | 88 | 48 | 123 | 6 | 156 | 56 |
| 10 | 7 | 25 | 30 | 48 | 57 | 59 | 89 | 55 | 124 | 14 | 158 | 2 |
| 11 | 8 | 9 | 31 | 38 | 58 | 59 | 91 | 2 | 125 | 23 | 159 | 9 |
| 12 | 8 | 54 | 32 | 28 | 59 | 59 | 92 | 10 | 126 | 32 | 160 | 15 |
| 13 | 9 | 39 | 33 | 18 | 60 | 59 | 93 | 18 | 127 | 41 | 161 | 21 |
| 14 | 10 | 24 | 34 | 9 | 61 | 59 | 94 | 26 | 128 | 50 | 162 | 27 |
| 15 | 11 | 9 | 35 | 0 | 63 | 0 | 95 | 34 | 129 | 58 | 163 | 33 |
| 16 | 11 | 54 | 35 | 52 | 64 | 1 | 96 | 42 | 131 | 6 | 164 | 39 |
| 17 | 12 | 39 | 36 | 44 | 65 | 3 | 97 | 50 | 132 | 14 | 165 | 45 |
| 18 | 13 | 25 | 37 | 36 | 66 | 5 | 98 | 59 | 133 | 22 | 166 | 51 |
| 19 | 14 | 10 | 38 | 28 | 67 | 7 | 100 | 8 | 134 | 30 | 167 | 57 |
| 20 | 14 | 56 | 39 | 20 | 68 | 9 | 101 | 10 | 135 | 38 | 169 | 3 |
| 21 | 15 | 42 | 40 | 13 | 69 | 12 | 102 | 25 | 136 | 46 | 170 | 9 |
| 22 | 16 | 28 | 41 | 6 | 70 | 15 | 103 | 34 | 137 | 54 | 171 | 15 |
| 23 | 17 | 14 | 41 | 59 | 71 | 18 | 104 | 43 | 139 | 2 | 172 | 21 |
| 24 | 18 | 0 | 42 | 53 | 72 | 22 | 105 | 52 | 140 | 10 | 173 | 27 |
| 25 | 18 | 47 | 43 | 47 | 73 | 26 | 107 | 1 | 141 | 18 | 174 | 32 |
| 26 | 19 | 34 | 44 | 41 | 74 | 30 | 108 | 10 | 142 | 26 | 175 | 38 |
| 27 | 20 | 21 | 45 | 36 | 75 | 35 | 109 | 19 | 143 | 33 | 176 | 44 |
| 28 | 21 | 8 | 46 | 31 | 76 | 40 | 100 | 28 | 144 | 40 | 177 | 49 |
| 29 | 21 | 55 | 47 | 26 | 77 | 45 | 111 | 37 | 145 | 47 | 178 | 55 |
| 30 | 22 | 42 | 48 | 22 | 78 | 50 | 112 | 46 | 146 | 54 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 213 | 6 | 247 | 14 | 281 | 10 | 311 | 38 | 337 | 18 |
| 1 | 181 | 5 | 214 | 13 | 248 | 23 | 282 | 15 | 312 | 34 | 338 | 5 |
| 2 | 182 | 11 | 215 | 20 | 249 | 32 | 283 | 20 | 313 | 29 | 338 | 52 |
| 3 | 183 | 16 | 216 | 27 | 250 | 41 | 284 | 25 | 314 | 24 | 339 | 39 |
| 4 | 184 | 22 | 217 | 34 | 251 | 50 | 285 | 30 | 315 | 19 | 340 | 26 |
| 5 | 185 | 28 | 218 | 42 | 252 | 59 | 286 | 34 | 316 | 13 | 341 | 13 |
| 6 | 186 | 33 | 219 | 50 | 254 | 8 | 287 | 38 | 317 | 7 | 342 | 0 |
| 7 | 187 | 39 | 220 | 58 | 255 | 17 | 288 | 42 | 318 | 1 | 342 | 46 |
| 8 | 188 | 45 | 222 | 6 | 256 | 26 | 289 | 45 | 318 | 54 | 343 | 32 |
| 9 | 189 | 51 | 223 | 14 | 257 | 35 | 290 | 48 | 319 | 47 | 344 | 18 |
| 10 | 190 | 57 | 224 | 22 | 258 | 44 | 201 | 51 | 320 | 40 | 345 | 4 |
| 11 | 192 | 3 | 225 | 30 | 259 | 52 | 292 | 53 | 321 | 32 | 345 | 50 |
| 12 | 193 | 9 | 226 | 38 | 261 | 1 | 293 | 55 | 322 | 24 | 346 | 35 |
| 13 | 194 | 15 | 227 | 46 | 262 | 10 | 294 | 57 | 323 | 16 | 347 | 21 |
| 14 | 195 | 21 | 228 | 54 | 263 | 18 | 295 | 59 | 324 | 8 | 348 | 6 |
| 15 | 196 | 27 | 230 | 2 | 264 | 26 | 297 | 0 | 325 | 0 | 348 | 51 |
| 16 | 197 | 33 | 231 | 10 | 265 | 34 | 298 | 1 | 325 | 51 | 349 | 36 |
| 17 | 198 | 39 | 232 | 19 | 266 | 42 | 299 | 1 | 326 | 42 | 350 | 21 |
| 18 | 199 | 45 | 233 | 28 | 267 | 50 | 300 | 1 | 327 | 32 | 351 | 6 |
| 19 | 200 | 51 | 234 | 37 | 268 | 58 | 301 | 1 | 328 | 22 | 351 | 51 |
| 20 | 201 | 58 | 235 | 64 | 270 | 5 | 302 | 1 | 329 | 12 | 352 | 25 |
| 21 | 203 | 4 | 236 | 54 | 271 | 12 | 303 | 0 | 330 | 2 | 353 | 20 |
| 22 | 204 | 11 | 238 | 3 | 272 | 19 | 303 | 59 | 330 | 51 | 354 | 5 |
| 23 | 205 | 17 | 239 | 11 | 273 | 26 | 304 | 58 | 331 | 40 | 354 | 49 |
| 24 | 206 | 24 | 240 | 20 | 274 | 33 | 305 | 55 | 332 | 29 | 355 | 34 |
| 25 | 207 | 31 | 241 | 29 | 275 | 40 | 306 | 53 | 333 | 18 | 356 | 18 |
| 26 | 208 | 38 | 242 | 38 | 276 | 46 | 307 | 51 | 334 | 6 | 357 | 3 |
| 27 | 209 | 45 | 243 | 47 | 277 | 52 | 308 | 48 | 334 | 54 | 357 | 47 |
| 28 | 210 | 52 | 244 | 56 | 278 | 58 | 309 | 45 | 335 | 42 | 358 | 32 |
| 29 | 211 | 59 | 246 | 5 | 280 | 4 | 310 | 42 | 336 | 30 | 359 | 16 |
| 30 | 213 | 6 | 247 | 14 | 281 | 10 | 311 | 38 | 337 | 18 | 360 | 0 |

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| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m |
| 0 | | 0 | 0 | 22 | 27 | 47 | 54 | 78 | 18 | 112 | 18 | 146 | 39 |
| 1 | | 0 | 43 | 23 | 14 | 48 | 50 | 79 | 24 | 113 | 28 | 147 | 47 |
| 2 | | 1 | 27 | 24 | 1 | 49 | 47 | 80 | 30 | 114 | 37 | 148 | 55 |
| 3 | | 2 | 11 | 24 | 48 | 50 | 44 | 81 | 36 | 115 | 47 | 150 | 2 |
| 4 | | 2 | 55 | 25 | 36 | 51 | 41 | 82 | 42 | 116 | 56 | 151 | 10 |
| 5 | | 3 | 39 | 26 | 24 | 52 | 38 | 83 | 48 | 118 | 5 | 152 | 17 |
| 6 | | 4 | 23 | 27 | 13 | 53 | 36 | 84 | 55 | 119 | 15 | 153 | 24 |
| 7 | | 5 | 7 | 28 | 2 | 54 | 34 | 86 | 2 | 120 | 24 | 154 | 31 |
| 8 | | 5 | 51 | 28 | 51 | 55 | 32 | 87 | 9 | 121 | 33 | 155 | 38 |
| 9 | | 6 | 35 | 29 | 40 | 56 | 30 | 88 | 16 | 122 | 42 | 156 | 45 |
| 10 | | 7 | 20 | 30 | 29 | 57 | 29 | 89 | 24 | 123 | 51 | 157 | 52 |
| 11 | | 8 | 4 | 31 | 19 | 58 | 29 | 90 | 32 | 125 | 1 | 158 | 59 |
| 12 | | 8 | 48 | 32 | 9 | 59 | 29 | 91 | 40 | 126 | 10 | 160 | 6 |
| 13 | | 9 | 33 | 32 | 59 | 60 | 29 | 92 | 48 | 127 | 19 | 161 | 13 |
| 14 | | 10 | 17 | 33 | 49 | 61 | 29 | 93 | 56 | 128 | 28 | 162 | 20 |
| 15 | | 11 | 2 | 34 | 39 | 62 | 30 | 95 | 4 | 129 | 37 | 163 | 26 |
| 16 | | 11 | 46 | 35 | 30 | 63 | 31 | 96 | 12 | 130 | 46 | 164 | 33 |
| 17 | | 12 | 31 | 36 | 21 | 64 | 32 | 97 | 21 | 131 | 54 | 165 | 39 |
| 18 | | 13 | 16 | 37 | 13 | 65 | 34 | 98 | 29 | 133 | 3 | 166 | 46 |
| 19 | | 14 | 1 | 38 | 5 | 66 | 36 | 99 | 38 | 134 | 11 | 167 | 52 |
| 20 | | 14 | 46 | 38 | 57 | 67 | 38 | 100 | 47 | 135 | 19 | 168 | 58 |
| 21 | | 15 | 31 | 39 | 49 | 68 | 41 | 101 | 56 | 136 | 28 | 170 | 5 |
| 22 | | 16 | 17 | 40 | 42 | 69 | 44 | 103 | 5 | 137 | 36 | 171 | 11 |
| 23 | | 17 | 3 | 41 | 35 | 70 | 47 | 104 | 14 | 138 | 44 | 172 | 17 |
| 24 | | 17 | 49 | 42 | 28 | 71 | 50 | 105 | 23 | 139 | 52 | 173 | 23 |
| 25 | | 18 | 35 | 43 | 21 | 72 | 54 | 106 | 32 | 141 | 0 | 174 | 29 |
| 26 | | 19 | 21 | 44 | 15 | 73 | 58 | 107 | 41 | 142 | 8 | 175 | 36 |
| 27 | | 20 | 7 | 45 | 9 | 75 | 3 | 108 | 50 | 143 | 16 | 176 | 42 |
| 28 | | 20 | 54 | 46 | 4 | 76 | 8 | 109 | 59 | 144 | 24 | 177 | 48 |
| 29 | | 21 | 40 | 46 | 59 | 77 | 13 | 111 | 8 | 145 | 32 | 178 | 54 |
| 30 | | 22 | 27 | 47 | 54 | 78 | 18 | 112 | 18 | 146 | 39 | 180 | 0 |

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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 213 | 21 | 247 | 42 | 281 | 42 | 312 | 6 | 337 | 33 |
| 1 | 181 | 6 | 214 | 28 | 248 | 52 | 282 | 47 | 313 | 1 | 338 | 20 |
| 2 | 182 | 12 | 215 | 36 | 250 | 1 | 283 | 52 | 313 | 56 | 339 | 6 |
| 3 | 183 | 18 | 216 | 44 | 251 | 10 | 284 | 57 | 314 | 50 | 339 | 53 |
| 4 | 184 | 24 | 217 | 52 | 252 | 19 | 286 | 2 | 315 | 45 | 340 | 39 |
| 5 | 185 | 31 | 219 | 0 | 253 | 28 | 287 | 6 | 316 | 3[illegible] | 341 | 25 |
| 6 | 186 | 37 | 220 | 8 | 254 | 37 | 288 | 10 | 317 | 32 | 342 | 11 |
| 7 | 187 | 43 | 221 | 16 | 255 | 46 | 289 | 13 | 318 | 29 | 342 | 57 |
| 8 | 188 | 49 | 222 | 24 | 256 | 55 | 290 | 16 | 319 | 18 | 343 | 43 |
| 9 | 189 | 55 | 223 | 32 | 258 | 4 | 291 | 19 | 320 | 11 | 344 | 29 |
| 10 | 191 | 2 | 224 | 41 | 259 | 13 | 292 | 22 | 321 | 3 | 345 | 14 |
| 11 | 192 | 8 | 225 | 49 | 260 | 22 | 283 | 24 | 321 | 55 | 345 | 59 |
| 12 | 193 | 14 | 226 | 57 | 261 | 31 | 294 | 26 | 322 | 47 | 346 | 44 |
| 13 | 194 | 21 | 228 | 6 | 262 | 39 | 295 | 28 | 323 | 38 | 347 | 29 |
| 14 | 195 | 27 | 229 | 14 | 263 | 48 | 296 | 29 | 324 | 30 | 348 | 14 |
| 15 | 196 | 34 | 230 | 23 | 264 | 56 | 297 | 30 | 325 | 19 | 348 | 58 |
| 16 | 197 | 40 | 231 | 32 | 266 | 4 | 298 | 31 | 326 | 11 | 349 | 43 |
| 17 | 198 | 47 | 232 | 41 | 267 | 12 | 299 | 31 | 327 | 1 | 350 | 27 |
| 18 | 199 | 54 | 233 | 50 | 268 | 20 | 300 | 31 | 327 | 51 | 351 | 12 |
| 19 | 201 | 1 | 234 | 59 | 269 | 28 | 301 | 31 | 328 | 41 | 351 | 56 |
| 20 | 202 | 8 | 236 | 9 | 270 | 36 | 302 | 31 | 329 | 31 | 352 | 50 |
| 21 | 203 | 15 | 237 | 18 | 271 | 44 | 303 | 30 | 330 | 20 | 353 | 25 |
| 22 | 204 | 22 | 238 | 27 | 272 | 51 | 304 | 28 | 331 | 9 | 354 | 9 |
| 23 | 205 | 29 | 239 | 36 | 273 | 58 | 305 | 26 | 331 | 58 | 354 | 53 |
| 24 | 206 | 36 | 240 | 45 | 274 | 5 | 306 | 24 | 332 | 47 | 355 | 37 |
| 25 | 207 | 43 | 241 | 55 | 276 | 12 | 307 | 22 | 333 | 36 | 356 | 21 |
| 26 | 208 | 50 | 243 | 4 | 277 | 18 | 308 | 19 | 334 | 24 | 357 | 5 |
| 27 | 209 | 58 | 244 | 13 | 278 | 24 | 309 | 16 | 335 | 11 | 357 | 49 |
| 28 | 211 | 5 | 245 | 23 | 279 | 30 | 310 | 13 | 335 | 59 | 358 | 33 |
| 29 | 212 | 13 | 246 | 32 | 280 | 36 | 311 | 10 | 336 | 46 | 359 | 17 |
| 30 | 213 | 21 | 247 | 42 | 181 | 42 | 312 | 6 | 337 | 33 | 360 | 0 |

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| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 22 | 12 | 47 | 28 | 77 | 45 | 111 | 52 | 146 | 24 |
| 1 | | 0 | 43 | 22 | 59 | 48 | 24 | 78 | 51 | 113 | 2 | 147 | 32 |
| 2 | | 1 | 26 | 23 | 46 | 49 | 20 | 79 | 57 | 114 | 12 | 148 | 40 |
| 3 | | 2 | 10 | 24 | 33 | 50 | 16 | 81 | 3 | 115 | 21 | 149 | 48 |
| 4 | | 2 | 53 | 25 | 20 | 51 | 12 | 82 | 9 | 116 | 31 | 150 | 56 |
| 5 | | 3 | 37 | 26 | 7 | 52 | 9 | 83 | 16 | 117 | 40 | 152 | 4 |
| 6 | | 4 | 20 | 26 | 55 | 53 | 6 | 84 | 23 | 118 | 50 | 153 | 12 |
| 7 | | 5 | 4 | 27 | 43 | 54 | 4 | 85 | 30 | 119 | 59 | 154 | 20 |
| 8 | | 5 | 47 | 28 | 31 | 55 | 2 | 86 | 37 | 121 | 9 | 155 | 27 |
| 9 | | 6 | 31 | 29 | 20 | 56 | 0 | 87 | 44 | 122 | 18 | 156 | 35 |
| 10 | | 7 | 15 | 30 | 9 | 56 | 59 | 88 | 52 | 123 | 27 | 157 | 42 |
| 11 | | 7 | 58 | 30 | 58 | 57 | 58 | 90 | 0 | 124 | 37 | 158 | 50 |
| 12 | | 8 | 42 | 31 | 47 | 58 | 58 | 91 | 8 | 125 | 47 | 159 | 57 |
| 13 | | 9 | 26 | 32 | 37 | 59 | 58 | 92 | 16 | 126 | 56 | 161 | 4 |
| 14 | | 10 | 10 | 33 | 27 | 60 | 58 | 93 | 24 | 128 | 6 | 162 | 11 |
| 15 | | 10 | 54 | 34 | 17 | 61 | 58 | 94 | 32 | 129 | 15 | 163 | 18 |
| 16 | | 11 | 38 | 35 | 8 | 62 | 59 | 95 | 41 | 130 | 24 | 164 | 25 |
| 17 | | 12 | 22 | 35 | 59 | 64 | 0 | 96 | 50 | 131 | 33 | 165 | 32 |
| 18 | | 13 | 6 | 36 | 50 | 65 | 2 | 97 | 59 | 132 | 42 | 166 | 39 |
| 19 | | 13 | 51 | 37 | 41 | 66 | 4 | 99 | 8 | 133 | 51 | 167 | 46 |
| 20 | | 14 | 36 | 38 | 33 | 67 | 6 | 100 | 17 | 134 | 59 | 168 | 53 |
| 21 | | 15 | 21 | 39 | 25 | 68 | 9 | 101 | 26 | 136 | 8 | 170 | 0 |
| 22 | | 16 | 6 | 40 | 17 | 69 | 12 | 102 | 35 | 137 | 17 | 171 | 7 |
| 23 | | 16 | 51 | 41 | 10 | 70 | 15 | 103 | 44 | 138 | 26 | 172 | 14 |
| 24 | | 17 | 36 | 42 | 3 | 71 | 18 | 104 | 53 | 139 | 35 | 173 | 21 |
| 25 | | 18 | 22 | 42 | 56 | 72 | 22 | 106 | 3 | 140 | 44 | 174 | 27 |
| 26 | | 19 | 8 | 43 | 50 | 73 | 26 | 107 | 12 | 141 | 52 | 175 | 34 |
| 27 | | 19 | 54 | 44 | 44 | 74 | 30 | 108 | 22 | 143 | 0 | 176 | 41 |
| 28 | | 20 | 40 | 45 | 38 | 75 | 35 | 109 | 32 | 144 | 8 | 177 | 47 |
| 29 | | 21 | 26 | 46 | 33 | 76 | 40 | 110 | 42 | 145 | 16 | 178 | 54 |
| 30 | | 22 | 12 | 47 | 28 | 77 | 45 | 111 | 52 | 146 | 24 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 213 | 36 | 248 | 8 | 282 | 15 | 312 | 32 | 337 | 48 |
| 1 | 181 | 6 | 214 | 44 | 249 | 18 | 283 | 20 | 313 | 27 | 338 | 34 |
| 2 | 182 | 13 | 215 | 52 | 250 | 28 | 284 | 25 | 314 | 22 | 339 | 20 |
| 3 | 183 | 19 | 217 | 0 | 251 | 38 | 285 | 30 | 315 | 16 | 340 | 6 |
| 4 | 184 | 26 | 218 | 8 | 252 | 48 | 286 | 34 | 316 | 10 | 340 | 52 |
| 5 | 185 | 33 | 219 | 16 | 253 | 57 | 287 | 38 | 317 | 4 | 341 | 38 |
| 6 | 186 | 39 | 220 | 25 | 255 | 7 | 288 | 42 | 317 | 57 | 342 | 24 |
| 7 | 187 | 46 | 221 | 34 | 256 | 16 | 289 | 45 | 318 | 50 | 343 | 9 |
| 8 | 188 | 53 | 222 | 43 | 257 | 15 | 290 | 48 | 319 | 43 | 343 | 54 |
| 9 | 190 | 0 | 223 | 52 | 258 | 34 | 291 | 51 | 320 | 35 | 344 | 39 |
| 10 | 191 | 7 | 225 | 1 | 259 | 43 | 292 | 54 | 321 | 27 | 345 | 24 |
| 11 | 192 | 14 | 226 | 9 | 260 | 52 | 293 | 56 | 322 | 19 | 346 | 9 |
| 12 | 193 | 21 | 227 | 18 | 262 | 1 | 294 | 58 | 323 | 10 | 346 | 54 |
| 13 | 194 | 28 | 228 | 27 | 263 | 10 | 296 | 0 | 324 | 1 | 347 | 38 |
| 14 | 195 | 35 | 229 | 36 | 264 | 19 | 297 | 1 | 324 | 52 | 348 | 22 |
| 15 | 196 | 42 | 230 | 45 | 265 | 28 | 298 | 2 | 325 | 43 | 349 | 6 |
| 16 | 197 | 49 | 231 | 54 | 266 | 36 | 299 | 2 | 326 | 33 | 349 | 50 |
| 17 | 198 | 56 | 233 | 4 | 267 | 44 | 300 | 2 | 327 | 23 | 350 | 34 |
| 18 | 200 | 3 | 234 | 13 | 268 | 52 | 301 | 2 | 328 | 13 | 351 | 18 |
| 19 | 201 | 10 | 235 | 23 | 270 | 0 | 302 | 2 | 329 | 2 | 352 | 2 |
| 20 | 202 | 18 | 236 | 33 | 271 | 8 | 303 | 1 | 329 | 51 | 352 | 45 |
| 21 | 203 | 25 | 237 | 42 | 272 | 16 | 304 | 0 | 330 | 40 | 353 | 29 |
| 22 | 204 | 33 | 238 | 51 | 273 | 23 | 304 | 59 | 331 | 29 | 354 | 13 |
| 23 | 205 | 40 | 240 | 1 | 274 | 30 | 305 | 57 | 332 | 17 | 354 | 56 |
| 24 | 206 | 48 | 241 | 10 | 275 | 37 | 306 | 54 | 333 | 5 | 355 | 40 |
| 25 | 207 | 56 | 242 | 20 | 276 | 44 | 307 | 51 | 333 | 53 | 356 | 23 |
| 26 | 209 | 4 | 243 | 29 | 277 | 51 | 308 | 48 | 334 | 40 | 357 | 7 |
| 27 | 210 | 12 | 244 | 39 | 278 | 57 | 309 | 44 | 335 | 27 | 357 | 50 |
| 28 | 211 | 20 | 245 | 48 | 280 | 3 | 310 | 40 | 336 | 14 | 358 | 34 |
| 29 | 212 | 28 | 246 | 58 | 281 | 9 | 311 | 36 | 337 | 1 | 359 | 17 |
| 30 | 213 | 36 | 248 | 8 | 282 | 15 | 312 | 32 | 337 | 48 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 21 | 57 | 47 | 0 | 77 | 12 | 111 | 24 | 146 | 9 |
| 1 | | 0 | 42 | 22 | 43 | 47 | 55 | 78 | 18 | 112 | 34 | 147 | 18 |
| 2 | | 1 | 25 | 23 | 29 | 48 | 51 | 79 | 24 | 113 | 44 | 148 | 26 |
| 3 | | 2 | 8 | 24 | 16 | 49 | 47 | 80 | 30 | 114 | 54 | 149 | 35 |
| 4 | | 2 | 51 | 25 | 3 | 50 | 43 | 81 | 36 | 116 | 4 | 150 | 43 |
| 5 | | 3 | 34 | 25 | 50 | 51 | 40 | 82 | 43 | 117 | 13 | 151 | 51 |
| 6 | | 4 | 17 | 26 | 37 | 52 | 37 | 83 | 50 | 118 | 23 | 153 | 0 |
| 7 | | 5 | 0 | 27 | 25 | 53 | 34 | 84 | 57 | 119 | 33 | 154 | 8 |
| 8 | | 5 | 43 | 28 | 13 | 54 | 32 | 86 | 4 | 120 | 43 | 155 | 16 |
| 9 | | 6 | 26 | 29 | 1 | 55 | 30 | 87 | 11 | 121 | 53 | 156 | 24 |
| 10 | | 7 | 9 | 29 | 49 | 56 | 28 | 88 | 19 | 123 | 3 | 157 | 32 |
| 11 | | 7 | 52 | 30 | 37 | 57 | 27 | 89 | 27 | 124 | 13 | 158 | 40 |
| 12 | | 8 | 35 | 31 | 26 | 58 | 26 | 90 | 95 | 125 | 23 | 159 | 48 |
| 13 | | 9 | 19 | 32 | 15 | 59 | 26 | 91 | 43 | 126 | 33 | 160 | 55 |
| 14 | | 10 | 2 | 33 | 4 | 60 | 26 | 92 | 51 | 127 | 42 | 162 | 3 |
| 15 | | 10 | 46 | 33 | 54 | 61 | 26 | 94 | 0 | 128 | 52 | 163 | 10 |
| 16 | | 11 | 30 | 34 | 44 | 62 | 27 | 95 | 9 | 130 | 2 | 164 | 18 |
| 17 | | 12 | 14 | 35 | 35 | 63 | 28 | 96 | 18 | 131 | 11 | 165 | 25 |
| 18 | | 12 | 58 | 36 | 26 | 64 | 29 | 97 | 27 | 132 | 21 | 166 | 33 |
| 19 | | 13 | 42 | 37 | 17 | 65 | 31 | 98 | 36 | 133 | 30 | 167 | 40 |
| 20 | | 14 | 26 | 38 | 9 | 66 | 33 | 99 | 46 | 134 | 39 | 168 | 47 |
| 21 | | 15 | 10 | 39 | 1 | 67 | 36 | 100 | 55 | 135 | 49 | 169 | 55 |
| 22 | | 15 | 54 | 39 | 53 | 68 | 39 | 102 | 5 | 136 | 58 | 171 | 2 |
| 23 | | 16 | 39 | 40 | 45 | 69 | 42 | 103 | 14 | 138 | 8 | 172 | 10 |
| 24 | | 17 | 24 | 41 | 37 | 70 | 45 | 104 | 24 | 139 | 17 | 173 | 17 |
| 25 | | 18 | 9 | 42 | 29 | 71 | 49 | 105 | 34 | 140 | 26 | 174 | 24 |
| 26 | | 18 | 54 | 43 | 22 | 72 | 53 | 106 | 44 | 141 | 35 | 175 | 32 |
| 27 | | 19 | 39 | 44 | 16 | 73 | 57 | 107 | 54 | 142 | 44 | 176 | 29 |
| 28 | | 20 | 25 | 45 | 10 | 75 | 2 | 109 | 4 | 143 | 52 | 177 | 46 |
| 29 | | 21 | 11 | 46 | 5 | 76 | 7 | 110 | 14 | 145 | 1 | 178 | 53 |
| 30 | | 21 | 57 | 47 | 0 | 77 | 12 | 111 | 24 | 146 | 9 | 180 | 0 |

| Gr | ♎ g. m. | | ♏ g. m. | | ♐ g. m. | | ♑ g. m. | | ♒ g. m. | | ♓ g. m. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 213 | 51 | 248 | 36 | 282 | 48 | 313 | 0 | 338 | 3 |
| 1 | 181 | 7 | 214 | 59 | 249 | 46 | 283 | 53 | 313 | 55 | 338 | 49 |
| 2 | 182 | 14 | 216 | 8 | 250 | 56 | 284 | 58 | 314 | 50 | 339 | 35 |
| 3 | 183 | 21 | 217 | 16 | 252 | 6 | 286 | 3 | 315 | 44 | 340 | 21 |
| 4 | 184 | 28 | 218 | 52 | 253 | 16 | 287 | 7 | 316 | 38 | 341 | 6 |
| 5 | 185 | 36 | 219 | 34 | 254 | 26 | 288 | 11 | 317 | 31 | 341 | 51 |
| 6 | 186 | 43 | 220 | 43 | 255 | 30 | 289 | 15 | 318 | 23 | 342 | 36 |
| 7 | 187 | 50 | 221 | 52 | 256 | 46 | 290 | 18 | 319 | 15 | 343 | 21 |
| 8 | 188 | 58 | 223 | 2 | 257 | 55 | 291 | 21 | 320 | 7 | 344 | 6 |
| 9 | 190 | 5 | 224 | 11 | 259 | 5 | 292 | 24 | 320 | 59 | 344 | 50 |
| 10 | 191 | 13 | 225 | 21 | 260 | 14 | 293 | 27 | 321 | 51 | 345 | 34 |
| 11 | 192 | 20 | 226 | 30 | 261 | 24 | 294 | 29 | 322 | 43 | 346 | 18 |
| 12 | 193 | 27 | 227 | 39 | 262 | 33 | 295 | 31 | 323 | 34 | 347 | 2 |
| 13 | 194 | 35 | 228 | 49 | 263 | 42 | 296 | 32 | 324 | 25 | 347 | 46 |
| 14 | 195 | 42 | 229 | 58 | 264 | 51 | 297 | 33 | 325 | 16 | 348 | 30 |
| 15 | 196 | 50 | 231 | 8 | 266 | 0 | 298 | 34 | 326 | 6 | 349 | 14 |
| 16 | 197 | 57 | 232 | 17 | 267 | 9 | 299 | 34 | 326 | 56 | 349 | 58 |
| 17 | 199 | 5 | 233 | 27 | 268 | 17 | 300 | 34 | 327 | 45 | 350 | 41 |
| 18 | 200 | 12 | 234 | 37 | 269 | 25 | 301 | 34 | 328 | 34 | 351 | 25 |
| 19 | 201 | 20 | 235 | 47 | 270 | 33 | 302 | 33 | 329 | 23 | 352 | 8 |
| 20 | 202 | 28 | 236 | 57 | 271 | 41 | 303 | 32 | 330 | 11 | 352 | 51 |
| 21 | 203 | 36 | 238 | 7 | 272 | 49 | 304 | 30 | 330 | 59 | 353 | 34 |
| 22 | 204 | 44 | 239 | 17 | 273 | 56 | 305 | 28 | 331 | 47 | 354 | 17 |
| 23 | 205 | 52 | 240 | 27 | 275 | 3 | 306 | 26 | 332 | 35 | 355 | 0 |
| 24 | 207 | 0 | 241 | 37 | 276 | 10 | 307 | 23 | 333 | 23 | 355 | 43 |
| 25 | 208 | 9 | 242 | 47 | 277 | 17 | 308 | 20 | 334 | 10 | 356 | 26 |
| 26 | 209 | 17 | 243 | 56 | 278 | 24 | 309 | 17 | 334 | 57 | 357 | 9 |
| 27 | 210 | 25 | 245 | 6 | 279 | 30 | 310 | 13 | 335 | 44 | 357 | 52 |
| 28 | 211 | 34 | 246 | 16 | 280 | 36 | 311 | 9 | 336 | 31 | 358 | 35 |
| 29 | 212 | 42 | 247 | 26 | 281 | 42 | 312 | 5 | 337 | 17 | 359 | 18 |
| 30 | 213 | 51 | 248 | 36 | 282 | 48 | 313 | 0 | 338 | 3 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 21 | 41 | 46 | 31 | 76 | 38 | 110 | 55 | 145 | 53 |
| 1 | | 0 | 42 | 22 | 27 | 47 | 26 | 77 | 44 | 112 | 6 | 147 | 2 |
| 2 | | 1 | 24 | 23 | 13 | 48 | 21 | 78 | 50 | 113 | 16 | 148 | 11 |
| 3 | | 2 | 6 | 23 | 59 | 49 | 17 | 79 | 56 | 114 | 27 | 149 | 20 |
| 4 | | 2 | 48 | 24 | 45 | 50 | 13 | 81 | 2 | 115 | 37 | 150 | 29 |
| 5 | | 3 | 31 | 25 | 31 | 51 | 9 | 82 | 9 | 116 | 47 | 151 | 38 |
| 6 | | 4 | 13 | 26 | 18 | 52 | 6 | 83 | 16 | 117 | 58 | 152 | 47 |
| 7 | | 4 | 56 | 27 | 5 | 53 | 3 | 84 | 23 | 119 | 8 | 153 | 56 |
| 8 | | 5 | 38 | 27 | 53 | 54 | 0 | 85 | 30 | 120 | 18 | 155 | 5 |
| 9 | | 6 | 21 | 28 | 41 | 54 | 58 | 86 | 38 | 121 | 28 | 156 | 13 |
| 10 | | 7 | 3 | 29 | 29 | 55 | 56 | 87 | 46 | 122 | 38 | 157 | 21 |
| 11 | | 7 | 46 | 30 | 17 | 56 | 55 | 88 | 54 | 123 | 49 | 158 | 30 |
| 12 | | 8 | 29 | 31 | 5 | 57 | 54 | 90 | 2 | 124 | 59 | 159 | 38 |
| 13 | | 9 | 12 | 31 | 54 | 58 | 54 | 91 | 10 | 126 | 10 | 160 | 46 |
| 14 | | 9 | 55 | 32 | 43 | 59 | 54 | 92 | 19 | 127 | 20 | 161 | 54 |
| 15 | | 10 | 38 | 33 | 32 | 60 | 54 | 93 | 28 | 128 | 30 | 163 | 2 |
| 16 | | 11 | 21 | 34 | 22 | 61 | 55 | 94 | 37 | 129 | 40 | 164 | 10 |
| 17 | | 12 | 4 | 35 | 12 | 62 | 56 | 95 | 46 | 130 | 50 | 165 | 18 |
| 18 | | 12 | 48 | 36 | 2 | 63 | 57 | 96 | 55 | 132 | 0 | 166 | 26 |
| 19 | | 13 | 31 | 36 | 53 | 64 | 58 | 98 | 4 | 133 | 10 | 167 | 34 |
| 20 | | 14 | 15 | 37 | 44 | 66 | 0 | 99 | 14 | 134 | 19 | 168 | 42 |
| 21 | | 14 | 59 | 38 | 35 | 67 | 2 | 100 | 23 | 135 | 29 | 169 | 50 |
| 22 | | 15 | 43 | 39 | 27 | 68 | 5 | 101 | 33 | 136 | 39 | 170 | 58 |
| 23 | | 16 | 27 | 40 | 19 | 69 | 8 | 102 | 43 | 137 | 48 | 172 | 6 |
| 24 | | 17 | 11 | 41 | 11 | 70 | 11 | 103 | 53 | 138 | 58 | 173 | 14 |
| 25 | | 17 | 56 | 42 | 3 | 71 | 15 | 105 | 3 | 140 | 7 | 174 | 21 |
| 26 | | 18 | 41 | 42 | 56 | 72 | 19 | 106 | 13 | 141 | 17 | 175 | 29 |
| 27 | | 19 | 26 | 43 | 49 | 73 | 23 | 107 | 23 | 142 | 26 | 176 | 37 |
| 28 | | 20 | 11 | 44 | 43 | 74 | 28 | 108 | 34 | 143 | 35 | 177 | 45 |
| 29 | | 20 | 56 | 45 | 37 | 75 | 33 | 109 | 44 | 144 | 44 | 178 | 53 |
| 30 | | 21 | 41 | 46 | 31 | 76 | 38 | 110 | 55 | 145 | 53 | 180 | 0 |

| G | ♎ g. m | | ♏ g. m. | | ♐ g. m. | | ♑ g. m. | | ♒ g. m. | | ♓ g. m. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 214 | 7 | 249 | 5 | 283 | 22 | 313 | 29 | 338 | 19 |
| 1 | 181 | 7 | 215 | 16 | 250 | 16 | 284 | 27 | 314 | 23 | 339 | 4 |
| 2 | 182 | 15 | 216 | 25 | 251 | 26 | 285 | 32 | 315 | 17 | 339 | 49 |
| 3 | 183 | 23 | 217 | 34 | 252 | 37 | 286 | 37 | 316 | 11 | 340 | 34 |
| 4 | 184 | 31 | 218 | 43 | 253 | 47 | 287 | 41 | 317 | 4 | 341 | 19 |
| 5 | 185 | 39 | 219 | 53 | 254 | 57 | 288 | 45 | 317 | 57 | 342 | 4 |
| 6 | 186 | 46 | 221 | 2 | 256 | 7 | 289 | 49 | 318 | 49 | 342 | 49 |
| 7 | 187 | 54 | 222 | 12 | 257 | 17 | 290 | 52 | 319 | 41 | 343 | 33 |
| 8 | 189 | 2 | 223 | 21 | 258 | 27 | 291 | 55 | 320 | 33 | 344 | 17 |
| 9 | 190 | 10 | 224 | 31 | 259 | 37 | 292 | 58 | 321 | 25 | 345 | 1 |
| 10 | 191 | 18 | 225 | 41 | 260 | 46 | 294 | 0 | 322 | 16 | 345 | 45 |
| 11 | 192 | 26 | 226 | 50 | 261 | 56 | 295 | 2 | 323 | 7 | 346 | 29 |
| 12 | 193 | 34 | 228 | 0 | 263 | 5 | 296 | 3 | 323 | 58 | 347 | 12 |
| 13 | 194 | 42 | 229 | 10 | 264 | 14 | 297 | 4 | 324 | 48 | 347 | 56 |
| 14 | 195 | 50 | 230 | 20 | 265 | 23 | 298 | 5 | 325 | 38 | 348 | 39 |
| 15 | 196 | 58 | 231 | 30 | 266 | 32 | 299 | 6 | 326 | 28 | 349 | 22 |
| 16 | 198 | 6 | 232 | 40 | 267 | 41 | 300 | 6 | 327 | 17 | 350 | 5 |
| 17 | 199 | 14 | 233 | 50 | 268 | 50 | 301 | 6 | 328 | 6 | 350 | 48 |
| 18 | 200 | 22 | 235 | 1 | 269 | 58 | 302 | 6 | 328 | 55 | 351 | 31 |
| 19 | 201 | 30 | 236 | 11 | 271 | 6 | 303 | 5 | 329 | 43 | 352 | 14 |
| 20 | 202 | 38 | 237 | 22 | 272 | 14 | 304 | 4 | 330 | 31 | 352 | 57 |
| 21 | 203 | 47 | 238 | 32 | 273 | 22 | 305 | 2 | 331 | 19 | 353 | 39 |
| 22 | 204 | 55 | 239 | 42 | 274 | 30 | 306 | 0 | 332 | 7 | 354 | 22 |
| 23 | 206 | 4 | 240 | 52 | 275 | 37 | 306 | 57 | 332 | 55 | 355 | 4 |
| 24 | 207 | 13 | 242 | 2 | 276 | 44 | 307 | 54 | 333 | 42 | 355 | 47 |
| 25 | 208 | 22 | 243 | 13 | 277 | 51 | 308 | 51 | 334 | 39 | 356 | 29 |
| 26 | 209 | 31 | 244 | 23 | 278 | 58 | 309 | 47 | 335 | 15 | 357 | 12 |
| 27 | 210 | 40 | 245 | 33 | 280 | 4 | 310 | 43 | 336 | 1 | 357 | 54 |
| 28 | 211 | 49 | 246 | 44 | 281 | 10 | 311 | 39 | 336 | 47 | 358 | 36 |
| 29 | 212 | 58 | 247 | 54 | 282 | 16 | 312 | 34 | 337 | 33 | 359 | 18 |
| 30 | 214 | 7 | 249 | 5 | 283 | 22 | 313 | 29 | 338 | 19 | 360 | 0 |

| G | | ♈ | ♉ | ♊ | ♋ | ♌ | ♍ |
|---|---|---|---|---|---|---|---|
| | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. |
| 0 | | 0 0 | 21 25 | 46 2 | 76 3 | 110 26 | 145 37 |
| 1 | | 0 41 | 22 10 | 46 57 | 77 9 | 111 37 | 146 47 |
| 2 | | 1 23 | 22 55 | 47 52 | 78 15 | 112 48 | 147 57 |
| 3 | | 2 5 | 23 41 | 48 47 | 79 21 | 113 58 | 149 6 |
| 4 | | 2 47 | 24 27 | 49 43 | 80 27 | 115 9 | 150 16 |
| 5 | | 3 29 | 25 13 | 50 39 | 81 34 | 116 19 | 151 25 |
| 6 | | 4 11 | 26 0 | 51 35 | 82 41 | 117 30 | 152 34 |
| 7 | | 4 53 | 26 47 | 52 32 | 83 48 | 118 41 | 153 43 |
| 8 | | 5 35 | 27 34 | 53 29 | 84 56 | 119 51 | 154 52 |
| 9 | | 6 17 | 28 21 | 54 26 | 86 4 | 121 2 | 156 1 |
| 10 | | 6 59 | 29 8 | 55 24 | 87 12 | 122 12 | 157 10 |
| 11 | | 7 41 | 29 55 | 56 22 | 88 20 | 123 23 | 158 19 |
| 12 | | 8 23 | 30 43 | 57 21 | 89 28 | 124 34 | 159 28 |
| 13 | | 9 5 | 31 31 | 58 20 | 90 36 | 125 45 | 160 37 |
| 14 | | 9 47 | 32 19 | 59 20 | 91 45 | 126 56 | 161 46 |
| 15 | | 10 29 | 33 8 | 60 20 | 92 54 | 128 6 | 162 54 |
| 16 | | 11 12 | 33 57 | 61 20 | 94 3 | 129 17 | 164 3 |
| 17 | | 11 55 | 34 47 | 62 21 | 95 12 | 130 27 | 165 12 |
| 18 | | 12 38 | 35 37 | 63 22 | 96 22 | 131 38 | 166 20 |
| 19 | | 13 21 | 36 27 | 64 24 | 97 32 | 132 48 | 167 29 |
| 20 | | 14 4 | 37 18 | 65 26 | 98 42 | 133 58 | 168 37 |
| 21 | | 14 47 | 38 9 | 66 28 | 99 52 | 135 9 | 169 46 |
| 22 | | 15 31 | 39 0 | 67 31 | 101 2 | 136 19 | 170 54 |
| 23 | | 16 15 | 39 51 | 68 34 | 102 12 | 137 29 | 172 3 |
| 24 | | 16 59 | 40 43 | 69 37 | 103 22 | 138 39 | 173 11 |
| 25 | | 17 43 | 41 35 | 70 40 | 104 32 | 139 49 | 174 19 |
| 26 | | 18 27 | 42 28 | 71 44 | 105 43 | 140 59 | 175 28 |
| 27 | | 19 11 | 43 21 | 72 48 | 106 54 | 142 9 | 176 36 |
| 28 | | 19 55 | 44 14 | 73 53 | 108 4 | 143 18 | 177 44 |
| 29 | | 20 40 | 45 8 | 74 58 | 109 15 | 144 28 | 178 52 |
| 30 | | 21 25 | 46 2 | 76 3 | 110 26 | 145 37 | 180 0 |

| G | ♎ g. m. | | ♏ g. m. | | ♐ g. m. | | ♑ g. m. | | ♒ g. m. | | ♓ g. m. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 214 | 23 | 249 | 34 | 283 | 57 | 313 | 58 | 338 | 35 |
| 1 | 181 | 8 | 215 | 32 | 250 | 45 | 285 | 2 | 314 | 52 | 339 | 20 |
| 2 | 182 | 16 | 216 | 42 | 251 | 56 | 286 | 7 | 315 | 46 | 340 | 5 |
| 3 | 183 | 24 | 217 | 51 | 253 | 6 | 287 | 12 | 316 | 39 | 340 | 49 |
| 4 | 184 | 32 | 219 | 1 | 254 | 17 | 288 | 16 | 317 | 32 | 341 | 33 |
| 5 | 185 | 41 | 220 | 11 | 255 | 28 | 289 | 20 | 318 | 25 | 342 | 17 |
| 6 | 186 | 49 | 221 | 21 | 256 | 38 | 290 | 23 | 319 | 17 | 343 | 1 |
| 7 | 187 | 57 | 222 | 31 | 257 | 48 | 291 | 26 | 320 | 9 | 343 | 45 |
| 8 | 189 | 6 | 223 | 41 | 258 | 58 | 292 | 29 | 321 | 0 | 344 | 29 |
| 9 | 190 | 14 | 224 | 51 | 260 | 8 | 293 | 32 | 321 | 51 | 345 | 13 |
| 10 | 191 | 23 | 226 | 2 | 261 | 18 | 294 | 34 | 322 | 42 | 345 | 56 |
| 11 | 192 | 31 | 227 | 12 | 262 | 28 | 295 | 36 | 323 | 33 | 346 | 39 |
| 12 | 193 | 40 | 228 | 22 | 263 | 38 | 296 | 38 | 324 | 23 | 347 | 22 |
| 13 | 194 | 48 | 229 | 33 | 264 | 48 | 297 | 39 | 325 | 13 | 348 | 5 |
| 14 | 195 | 57 | 230 | 43 | 265 | 57 | 298 | 40 | 326 | 3 | 348 | 48 |
| 15 | 197 | 6 | 231 | 54 | 267 | 6 | 299 | 40 | 326 | 52 | 349 | 31 |
| 16 | 198 | 14 | 233 | 4 | 268 | 15 | 300 | 40 | 327 | 41 | 350 | 13 |
| 17 | 199 | 23 | 234 | 15 | 269 | 24 | 301 | 40 | 328 | 29 | 350 | 55 |
| 18 | 200 | 32 | 235 | 26 | 270 | 32 | 302 | 39 | 329 | 17 | 351 | 37 |
| 19 | 201 | 41 | 236 | 37 | 271 | 40 | 303 | 38 | 330 | 5 | 352 | 19 |
| 20 | 202 | 50 | 237 | 48 | 272 | 48 | 304 | 36 | 330 | 52 | 353 | 1 |
| 21 | 203 | 59 | 238 | 58 | 273 | 56 | 305 | 34 | 331 | 39 | 353 | 43 |
| 22 | 205 | 8 | 240 | 9 | 275 | 4 | 306 | 31 | 332 | 26 | 354 | 25 |
| 23 | 206 | 17 | 241 | 19 | 276 | 12 | 307 | 28 | 333 | 13 | 355 | 7 |
| 24 | 207 | 26 | 242 | 30 | 277 | 19 | 308 | 25 | 334 | 0 | 355 | 49 |
| 25 | 208 | 35 | 243 | 41 | 278 | 26 | 309 | 21 | 334 | 47 | 356 | 31 |
| 26 | 209 | 44 | 244 | 51 | 279 | 33 | 310 | 17 | 335 | 33 | 357 | 13 |
| 27 | 210 | 54 | 246 | 2 | 280 | 39 | 311 | 13 | 336 | 19 | 357 | 55 |
| 28 | 212 | 3 | 247 | 12 | 281 | 45 | 312 | 8 | 337 | 5 | 358 | 37 |
| 29 | 213 | 13 | 248 | 23 | 282 | 51 | 313 | 3 | 337 | 50 | 359 | 19 |
| 30 | 214 | 23 | 249 | 34 | 283 | 57 | 313 | 58 | 338 | 35 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 21 | 9 | 45 | 32 | 75 | 28 | 109 | 56 | 145 | 21 |
| 1 | | 0 | 41 | 21 | 54 | 46 | 27 | 76 | 34 | 111 | 7 | 146 | 31 |
| 2 | | 1 | 22 | 22 | 39 | 47 | 22 | 77 | 40 | 112 | 18 | 147 | 41 |
| 3 | | 2 | 3 | 23 | 24 | 48 | 17 | 78 | 46 | 113 | 29 | 148 | 51 |
| 4 | | 2 | 44 | 24 | 9 | 49 | 12 | 79 | 52 | 114 | 40 | 150 | 1 |
| 5 | | 3 | 26 | 24 | 54 | 50 | 7 | 80 | 59 | 115 | 51 | 151 | 11 |
| 6 | | 4 | 7 | 25 | 40 | 51 | 3 | 82 | 6 | 117 | 2 | 152 | 21 |
| 7 | | 4 | 48 | 26 | 26 | 52 | 0 | 83 | 13 | 118 | 13 | 153 | 31 |
| 8 | | 5 | 30 | 27 | 13 | 52 | 57 | 84 | 21 | 119 | 24 | 154 | 41 |
| 9 | | 6 | 11 | 28 | 0 | 53 | 54 | 85 | 29 | 120 | 35 | 155 | 51 |
| 10 | | 6 | 53 | 28 | 47 | 54 | 51 | 86 | 37 | 121 | 47 | 157 | 1 |
| 11 | | 7 | 34 | 29 | 34 | 55 | 50 | 87 | 45 | 122 | 58 | 158 | 10 |
| 12 | | 8 | 16 | 30 | 21 | 56 | 49 | 88 | 53 | 124 | 9 | 159 | 19 |
| 13 | | 8 | 58 | 31 | 9 | 57 | 48 | 90 | 2 | 125 | 21 | 160 | 28 |
| 14 | | 9 | 40 | 31 | 57 | 58 | 47 | 91 | 11 | 126 | 32 | 161 | 37 |
| 15 | | 10 | 22 | 32 | 45 | 59 | 47 | 92 | 20 | 127 | 43 | 162 | 46 |
| 16 | | 11 | 4 | 33 | 34 | 60 | 47 | 93 | 29 | 128 | 54 | 163 | 55 |
| 17 | | 11 | 46 | 34 | 23 | 61 | 48 | 94 | 39 | 130 | 5 | 165 | 4 |
| 18 | | 12 | 28 | 35 | 13 | 62 | 49 | 95 | 49 | 131 | 16 | 166 | 13 |
| 19 | | 13 | 11 | 36 | 3 | 63 | 50 | 96 | 59 | 132 | 27 | 167 | 22 |
| 20 | | 13 | 54 | 36 | 53 | 64 | 51 | 98 | 9 | 133 | 37 | 168 | 31 |
| 21 | | 14 | 37 | 37 | 43 | 65 | 53 | 99 | 19 | 134 | 48 | 169 | 40 |
| 22 | | 15 | 20 | 38 | 34 | 66 | 56 | 100 | 29 | 135 | 59 | 170 | 49 |
| 23 | | 16 | 3 | 39 | 25 | 67 | 59 | 101 | 40 | 137 | 9 | 171 | 58 |
| 24 | | 16 | 46 | 40 | 16 | 69 | 2 | 102 | 50 | 138 | 20 | 173 | 7 |
| 25 | | 17 | 29 | 41 | 8 | 70 | 5 | 104 | 1 | 139 | 30 | 174 | 16 |
| 26 | | 18 | 13 | 42 | 0 | 71 | 9 | 105 | 12 | 140 | 41 | 175 | 25 |
| 27 | | 18 | 57 | 42 | 53 | 72 | 13 | 106 | 23 | 141 | 51 | 176 | 34 |
| 28 | | 19 | 41 | 43 | 46 | 73 | 18 | 107 | 34 | 143 | 1 | 177 | 43 |
| 29 | | 20 | 25 | 44 | 39 | 74 | 23 | 108 | 45 | 144 | 11 | 178 | 52 |
| 30 | | 21 | 9 | 45 | 32 | 75 | 28 | 109 | 56 | 145 | 21 | 180 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 214 | 39 | 250 | 4 | 284 | 32 | 314 | 28 | 338 | 51 |
| 1 | 181 | 8 | 215 | 49 | 251 | 15 | 285 | 37 | 315 | 21 | 339 | 35 |
| 2 | 182 | 17 | 216 | 59 | 252 | 26 | 286 | 42 | 316 | 14 | 340 | 19 |
| 3 | 183 | 26 | 218 | 9 | 253 | 37 | 287 | 47 | 317 | 7 | 341 | 3 |
| 4 | 184 | 35 | 219 | 19 | 254 | 48 | 288 | 51 | 318 | 0 | 341 | 47 |
| 5 | 185 | 44 | 220 | 30 | 255 | 59 | 289 | 55 | 318 | 52 | 342 | 31 |
| 6 | 186 | 53 | 221 | 40 | 257 | 10 | 290 | 58 | 319 | 44 | 343 | 14 |
| 7 | 188 | 2 | 222 | 51 | 258 | 20 | 292 | 1 | 320 | 35 | 343 | 57 |
| 8 | 189 | 11 | 224 | 1 | 259 | 31 | 293 | 4 | 321 | 26 | 344 | 40 |
| 9 | 190 | 20 | 225 | 12 | 260 | 41 | 294 | 7 | 322 | 17 | 345 | 23 |
| 10 | 191 | 29 | 226 | 23 | 261 | 51 | 295 | 9 | 323 | 7 | 346 | 6 |
| 11 | 192 | 38 | 227 | 33 | 263 | 1 | 296 | 10 | 323 | 57 | 346 | 49 |
| 12 | 193 | 47 | 228 | 44 | 264 | 11 | 297 | 11 | 324 | 47 | 347 | 32 |
| 13 | 194 | 56 | 229 | 55 | 265 | 21 | 298 | 12 | 325 | 37 | 348 | 14 |
| 14 | 196 | 5 | 231 | 6 | 266 | 31 | 299 | 13 | 326 | 26 | 348 | 56 |
| 15 | 197 | 14 | 232 | 17 | 267 | 40 | 300 | 13 | 327 | 15 | 349 | 38 |
| 16 | 198 | 23 | 233 | 28 | 268 | 49 | 301 | 13 | 328 | 3 | 350 | 20 |
| 17 | 199 | 32 | 234 | 39 | 269 | 58 | 302 | 12 | 328 | 51 | 351 | 2 |
| 18 | 200 | 41 | 235 | 51 | 271 | 7 | 303 | 11 | 329 | 39 | 351 | 44 |
| 19 | 201 | 50 | 237 | 2 | 272 | 15 | 304 | 10 | 330 | 26 | 352 | 26 |
| 20 | 202 | 59 | 238 | 13 | 273 | 23 | 305 | 9 | 331 | 13 | 353 | 7 |
| 21 | 204 | 9 | 239 | 25 | 274 | 31 | 306 | 6 | 332 | 0 | 353 | 49 |
| 22 | 205 | 19 | 240 | 36 | 275 | 39 | 307 | 3 | 332 | 47 | 354 | 30 |
| 23 | 206 | 29 | 241 | 47 | 276 | 47 | 308 | 0 | 333 | 34 | 355 | 12 |
| 24 | 207 | 39 | 242 | 58 | 277 | 54 | 308 | 57 | 334 | 20 | 355 | 53 |
| 25 | 208 | 49 | 244 | 9 | 279 | 1 | 309 | 53 | 335 | 6 | 356 | 34 |
| 26 | 209 | 59 | 245 | 20 | 280 | 8 | 310 | 48 | 335 | 51 | 357 | 16 |
| 27 | 211 | 9 | 246 | 31 | 281 | 14 | 311 | 43 | 336 | 36 | 357 | 57 |
| 28 | 212 | 19 | 247 | 42 | 282 | 20 | 312 | 38 | 337 | 21 | 358 | 38 |
| 29 | 213 | 29 | 248 | 53 | 283 | 26 | 313 | 33 | 338 | 6 | 359 | 19 |
| 30 | 214 | 39 | 250 | 4 | 284 | 32 | 314 | 28 | 338 | 51 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 20 | 53 | 45 | 2 | 74 | 51 | 109 | 26 | 145 | 5 |
| 1 | | 0 | 40 | 21 | 37 | 45 | 56 | 75 | 56 | 110 | 37 | 146 | 16 |
| 2 | | 1 | 21 | 22 | 21 | 46 | 50 | 77 | 2 | 111 | 48 | 147 | 26 |
| 3 | | 2 | 1 | 23 | 5 | 47 | 45 | 78 | 8 | 113 | 0 | 148 | 37 |
| 4 | | 2 | 42 | 23 | 50 | 48 | 40 | 79 | 15 | 114 | 11 | 149 | 47 |
| 5 | | 3 | 23 | 24 | 35 | 49 | 35 | 80 | 22 | 115 | 23 | 150 | 57 |
| 6 | | 4 | 4 | 25 | 20 | 50 | 31 | 81 | 29 | 116 | 34 | 152 | 8 |
| 7 | | 4 | 45 | 26 | 6 | 51 | 27 | 82 | 37 | 117 | 45 | 153 | 18 |
| 8 | | 5 | 26 | 26 | 52 | 52 | 24 | 83 | 45 | 118 | 57 | 154 | 28 |
| 9 | | 6 | 7 | 27 | 38 | 53 | 21 | 84 | 53 | 120 | 8 | 155 | 38 |
| 10 | | 6 | 48 | 28 | 25 | 54 | 18 | 86 | 1 | 121 | 20 | 156 | 48 |
| 11 | | 7 | 29 | 29 | 12 | 55 | 16 | 87 | 10 | 122 | 31 | 157 | 58 |
| 12 | | 8 | 10 | 29 | 59 | 56 | 14 | 88 | 19 | 123 | 43 | 159 | 8 |
| 13 | | 8 | 51 | 30 | 46 | 57 | 13 | 89 | 28 | 124 | 55 | 160 | 18 |
| 14 | | 9 | 32 | 31 | 33 | 58 | 12 | 90 | 37 | 126 | 7 | 161 | 28 |
| 15 | | 10 | 14 | 32 | 21 | 59 | 12 | 91 | 46 | 127 | 19 | 162 | 38 |
| 16 | | 10 | 55 | 33 | 9 | 60 | 12 | 92 | 56 | 128 | 31 | 163 | 48 |
| 17 | | 11 | 37 | 33 | 58 | 61 | 12 | 94 | 6 | 129 | 42 | 164 | 58 |
| 18 | | 12 | 18 | 34 | 47 | 62 | 13 | 95 | 16 | 130 | 53 | 166 | 7 |
| 19 | | 13 | 0 | 35 | 36 | 63 | 14 | 96 | 26 | 132 | 4 | 167 | 17 |
| 20 | | 13 | 42 | 36 | 26 | 64 | 15 | 97 | 36 | 133 | 15 | 168 | 26 |
| 21 | | 14 | 24 | 37 | 16 | 65 | 17 | 98 | 46 | 134 | 27 | 169 | 36 |
| 22 | | 15 | 7 | 38 | 6 | 66 | 19 | 99 | 57 | 135 | 38 | 170 | 45 |
| 23 | | 15 | 49 | 38 | 57 | 67 | 22 | 101 | 7 | 136 | 49 | 171 | 55 |
| 24 | | 16 | 32 | 39 | 48 | 68 | 25 | 102 | 18 | 138 | 0 | 173 | 4 |
| 25 | | 17 | 15 | 40 | 39 | 69 | 28 | 103 | 29 | 139 | 11 | 174 | 13 |
| 26 | | 17 | 58 | 41 | 31 | 70 | 32 | 104 | 40 | 140 | 22 | 175 | 23 |
| 27 | | 18 | 42 | 42 | 23 | 71 | 36 | 105 | 51 | 141 | 33 | 176 | 32 |
| 28 | | 19 | 25 | 43 | 16 | 72 | 41 | 107 | 3 | 142 | 44 | 177 | 42 |
| 29 | | 20 | 9 | 44 | 9 | 73 | 46 | 108 | 14 | 143 | 55 | 178 | 51 |
| 30 | | 20 | 53 | 45 | 2 | 74 | 51 | 109 | 26 | 145 | 5 | 180 | 0 |

| G | ♎ g. m. | ♏ g. m. | ♐ g. m. | ♑ g. m. | ♒ g. m. | ♓ g. m. |
|---|---|---|---|---|---|---|
| 0 | 180 0 | 214 55 | 250 34 | 285 9 | 314 58 | 339 7 |
| 1 | 181 9 | 216 5 | 251 46 | 286 14 | 315 51 | 339 51 |
| 2 | 182 18 | 217 16 | 252 57 | 287 19 | 316 44 | 340 35 |
| 3 | 183 28 | 218 27 | 254 9 | 288 24 | 317 37 | 341 18 |
| 4 | 184 37 | 219 38 | 255 20 | 289 28 | 318 29 | 342 2 |
| 5 | 185 47 | 220 49 | 256 31 | 290 32 | 319 21 | 342 45 |
| 6 | 186 56 | 222 0 | 257 42 | 291 35 | 320 12 | 343 28 |
| 7 | 188 5 | 223 11 | 258 53 | 292 38 | 321 3 | 344 11 |
| 8 | 189 15 | 224 22 | 260 3 | 293 41 | 321 54 | 344 53 |
| 9 | 190 24 | 225 33 | 261 14 | 294 43 | 322 44 | 345 36 |
| 10 | 191 34 | 226 45 | 262 24 | 295 45 | 323 34 | 346 18 |
| 11 | 192 43 | 227 56 | 263 34 | 296 46 | 324 24 | 347 0 |
| 12 | 193 53 | 229 7 | 264 44 | 297 47 | 325 13 | 347 42 |
| 13 | 195 2 | 230 18 | 265 54 | 298 48 | 326 2 | 348 23 |
| 14 | 196 12 | 231 29 | 267 4 | 299 48 | 326 51 | 349 5 |
| 15 | 197 22 | 232 41 | 268 14 | 300 48 | 327 39 | 349 46 |
| 16 | 198 32 | 233 53 | 269 23 | 301 48 | 328 27 | 350 28 |
| 17 | 199 42 | 235 5 | 270 32 | 302 47 | 329 14 | 351 9 |
| 18 | 200 52 | 236 17 | 271 41 | 303 46 | 330 1 | 351 50 |
| 19 | 202 2 | 237 29 | 272 50 | 304 44 | 330 48 | 352 31 |
| 20 | 203 12 | 238 40 | 273 59 | 305 42 | 331 35 | 353 12 |
| 21 | 204 22 | 239 52 | 275 7 | 306 39 | 332 22 | 353 53 |
| 22 | 205 32 | 241 3 | 276 15 | 307 36 | 333 8 | 354 34 |
| 23 | 206 42 | 242 15 | 277 23 | 308 33 | 233 54 | 355 15 |
| 24 | 207 52 | 243 26 | 278 31 | 309 29 | 334 40 | 355 56 |
| 25 | 209 3 | 244 37 | 279 38 | 310 2 | 335 25 | 356 37 |
| 26 | 210 13 | 245 49 | 280 45 | 311 20 | 336 10 | 357 18 |
| 27 | 211 23 | 247 0 | 281 52 | 312 15 | 336 55 | 357 59 |
| 28 | 212 34 | 248 12 | 282 58 | 313 10 | 337 39 | 358 39 |
| 29 | 213 44 | 249 23 | 284 4 | 314 4 | 338 23 | 359 20 |
| 30 | 214 55 | 250 34 | 285 9 | 214 58 | 339 7 | 360 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 20 | 36 | 44 | 31 | 74 | 14 | 108 | 55 | 144 | 48 |
| 1 | | 0 | 40 | 21 | 20 | 45 | 25 | 75 | 19 | 110 | 6 | 145 | 59 |
| 2 | | 1 | 20 | 22 | 4 | 46 | 19 | 76 | 25 | 111 | 18 | 147 | 10 |
| 3 | | 2 | 0 | 22 | 48 | 47 | 13 | 77 | 31 | 112 | 30 | 148 | 21 |
| 4 | | 2 | 40 | 23 | 32 | 48 | 7 | 78 | 38 | 113 | 42 | 149 | 32 |
| 5 | | 3 | 20 | 24 | 16 | 49 | 2 | 79 | 45 | 114 | 54 | 150 | 43 |
| 6 | | 4 | 0 | 25 | 1 | 49 | 58 | 80 | 53 | 116 | 5 | 151 | 54 |
| 7 | | 4 | 40 | 25 | 46 | 50 | 54 | 82 | 1 | 117 | 17 | 153 | 5 |
| 8 | | 5 | 21 | 26 | 31 | 51 | 50 | 83 | 9 | 118 | 29 | 154 | 16 |
| 9 | | 6 | 1 | 27 | 17 | 52 | 46 | 84 | 17 | 119 | 41 | 155 | 27 |
| 10 | | 6 | 42 | 28 | 3 | 53 | 43 | 85 | 25 | 120 | 53 | 156 | 37 |
| 11 | | 7 | 22 | 28 | 49 | 54 | 40 | 86 | 34 | 122 | 5 | 157 | 48 |
| 12 | | 8 | 3 | 29 | 36 | 55 | 38 | 87 | 43 | 123 | 17 | 158 | 58 |
| 13 | | 8 | 43 | 30 | 22 | 56 | 37 | 88 | 52 | 124 | 30 | 160 | 9 |
| 14 | | 9 | 24 | 31 | 9 | 57 | 36 | 90 | 1 | 125 | 42 | 161 | 19 |
| 15 | | 10 | 5 | 31 | 56 | 58 | 36 | 91 | 10 | 126 | 54 | 162 | 29 |
| 16 | | 10 | 46 | 32 | 44 | 59 | 36 | 92 | 20 | 128 | 6 | 163 | 40 |
| 17 | | 11 | 27 | 33 | 33 | 60 | 36 | 93 | 30 | 129 | 18 | 164 | 50 |
| 18 | | 12 | 8 | 34 | 21 | 61 | 37 | 94 | 40 | 130 | 30 | 166 | 0 |
| 19 | | 12 | 49 | 35 | 10 | 62 | 38 | 95 | 50 | 131 | 42 | 167 | 10 |
| 20 | | 13 | 31 | 35 | 59 | 63 | 39 | 97 | 1 | 132 | 53 | 168 | 20 |
| 21 | | 14 | 13 | 36 | 49 | 64 | 41 | 98 | 12 | 134 | 5 | 169 | 30 |
| 22 | | 14 | 55 | 37 | 39 | 65 | 43 | 99 | 23 | 135 | 17 | 170 | 40 |
| 23 | | 15 | 37 | 38 | 29 | 66 | 45 | 100 | 34 | 136 | 29 | 171 | 50 |
| 24 | | 16 | 19 | 39 | 19 | 67 | 48 | 101 | 45 | 137 | 41 | 173 | 0 |
| 25 | | 17 | 1 | 40 | 10 | 68 | 51 | 102 | 56 | 138 | 52 | 174 | 10 |
| 26 | | 17 | 44 | 41 | 2 | 69 | 55 | 104 | 7 | 140 | 4 | 175 | 20 |
| 27 | | 18 | 27 | 41 | 54 | 70 | 59 | 105 | 19 | 141 | 15 | 176 | 30 |
| 28 | | 19 | 10 | 42 | 46 | 72 | 4 | 106 | 31 | 142 | 26 | 177 | 40 |
| 29 | | 19 | 53 | 43 | 38 | 73 | 9 | 107 | 43 | 143 | 37 | 178 | 50 |
| 30 | | 20 | 36 | 44 | 31 | 74 | 14 | 108 | 55 | 144 | 48 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 215 | 12 | 251 | 5 | 285 | 46 | 315 | 29 | 339 | 24 |
| 1 | 181 | 10 | 216 | 23 | 252 | 17 | 286 | 51 | 316 | 22 | 340 | 7 |
| 2 | 182 | 20 | 217 | 34 | 253 | 29 | 287 | 56 | 317 | 14 | 340 | 50 |
| 3 | 183 | 30 | 218 | 45 | 254 | 41 | 289 | 1 | 318 | 6 | 341 | 33 |
| 4 | 184 | 40 | 219 | 56 | 255 | 53 | 290 | 5 | 318 | 58 | 342 | 16 |
| 5 | 185 | 50 | 221 | 8 | 257 | 4 | 291 | 9 | 319 | 50 | 342 | 59 |
| 6 | 187 | 0 | 222 | 19 | 258 | 15 | 292 | 12 | 320 | 41 | 343 | 41 |
| 7 | 188 | 10 | 223 | 31 | 259 | 26 | 293 | 15 | 321 | 31 | 344 | 23 |
| 8 | 189 | 20 | 224 | 43 | 260 | 37 | 294 | 17 | 322 | 21 | 345 | 5 |
| 9 | 190 | 30 | 225 | 55 | 261 | 48 | 295 | 19 | 323 | 11 | 345 | 47 |
| 10 | 191 | 40 | 227 | 7 | 262 | 59 | 296 | 21 | 324 | 1 | 346 | 29 |
| 11 | 192 | 50 | 228 | 18 | 264 | 10 | 297 | 22 | 324 | 50 | 347 | 11 |
| 12 | 194 | 0 | 229 | 30 | 265 | 20 | 298 | 23 | 325 | 35 | 347 | 52 |
| 13 | 195 | 10 | 230 | 42 | 266 | 30 | 299 | 24 | 326 | 27 | 348 | 33 |
| 14 | 196 | 20 | 231 | 54 | 267 | 40 | 300 | 24 | 327 | 16 | 349 | 14 |
| 15 | 197 | 31 | 233 | 6 | 268 | 50 | 301 | 24 | 328 | 4 | 349 | 55 |
| 16 | 198 | 41 | 234 | 18 | 269 | 59 | 302 | 24 | 328 | 51 | 350 | 36 |
| 17 | 199 | 51 | 235 | 30 | 271 | 8 | 303 | 23 | 329 | 38 | 351 | 17 |
| 18 | 201 | 2 | 236 | 43 | 272 | 17 | 304 | 22 | 330 | 24 | 351 | 57 |
| 19 | 202 | 12 | 237 | 55 | 273 | 26 | 305 | 20 | 331 | 11 | 352 | 38 |
| 20 | 203 | 23 | 239 | 7 | 274 | 35 | 306 | 17 | 331 | 57 | 353 | 18 |
| 21 | 204 | 33 | 240 | 19 | 275 | 43 | 307 | 14 | 332 | 43 | 353 | 59 |
| 22 | 205 | 44 | 241 | 31 | 276 | 51 | 308 | 10 | 333 | 29 | 354 | 39 |
| 23 | 206 | 55 | 242 | 43 | 277 | 59 | 309 | 6 | 334 | 14 | 355 | 20 |
| 24 | 208 | 6 | 243 | 55 | 279 | 7 | 310 | 2 | 334 | 59 | 356 | 0 |
| 25 | 209 | 17 | 245 | 6 | 280 | 15 | 310 | 58 | 335 | 44 | 356 | 40 |
| 26 | 210 | 28 | 246 | 18 | 281 | 22 | 311 | 53 | 336 | 28 | 357 | 20 |
| 27 | 211 | 39 | 247 | 30 | 282 | 29 | 312 | 47 | 337 | 12 | 358 | 0 |
| 28 | 212 | 50 | 248 | 42 | 283 | 35 | 313 | 41 | 337 | 56 | 358 | 40 |
| 29 | 214 | 1 | 249 | 54 | 284 | 41 | 314 | 35 | 338 | 40 | 359 | 20 |
| 30 | 215 | 12 | 251 | 5 | 285 | 46 | 315 | 29 | 339 | 24 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 20 | 18 | 43 | 59 | 73 | 36 | 108 | 23 | 144 | 30 |
| 1 | 0 | 39 | 21 | 1 | 44 | 52 | 74 | 42 | 109 | 35 | 145 | 42 |
| 2 | 1 | 18 | 21 | 44 | 45 | 45 | 75 | 48 | 110 | 47 | 146 | 54 |
| 3 | 1 | 58 | 22 | 27 | 46 | 39 | 76 | 54 | 111 | 59 | 148 | 5 |
| 4 | 2 | 37 | 23 | 11 | 47 | 33 | 78 | 0 | 113 | 11 | 149 | 17 |
| 5 | 3 | 17 | 23 | 55 | 48 | 28 | 79 | 7 | 114 | 24 | 150 | 28 |
| 6 | 3 | 56 | 24 | 40 | 49 | 23 | 80 | 15 | 115 | 36 | 151 | 40 |
| 7 | 4 | 36 | 25 | 25 | 50 | 19 | 81 | 23 | 116 | 48 | 152 | 51 |
| 8 | 5 | 16 | 26 | 10 | 51 | 15 | 82 | 31 | 118 | 1 | 154 | 3 |
| 9 | 5 | 56 | 26 | 55 | 52 | 11 | 83 | 39 | 119 | 13 | 155 | 14 |
| 10 | 6 | 36 | 27 | 40 | 53 | 8 | 84 | 47 | 120 | 26 | 156 | 25 |
| 11 | 7 | 16 | 28 | 26 | 54 | 5 | 85 | 56 | 121 | 38 | 157 | 36 |
| 12 | 7 | 56 | 29 | 12 | 55 | 3 | 87 | 5 | 122 | 51 | 158 | 47 |
| 13 | 8 | 36 | 29 | 58 | 56 | 1 | 88 | 14 | 124 | 3 | 159 | 58 |
| 14 | 9 | 16 | 30 | 44 | 57 | 0 | 89 | 23 | 125 | 16 | 161 | 9 |
| 15 | 9 | 56 | 31 | 31 | 57 | 59 | 90 | 33 | 126 | 29 | 162 | 20 |
| 16 | 10 | 36 | 32 | 18 | 58 | 59 | 91 | 43 | 127 | 42 | 163 | 31 |
| 17 | 11 | 17 | 33 | 6 | 59 | 59 | 92 | 53 | 128 | 54 | 164 | 42 |
| 18 | 11 | 57 | 33 | 54 | 60 | 59 | 94 | 4 | 130 | 6 | 165 | 53 |
| 19 | 12 | 38 | 34 | 43 | 62 | 0 | 95 | 15 | 131 | 18 | 167 | 4 |
| 20 | 13 | 19 | 35 | 32 | 63 | 1 | 96 | 26 | 132 | 30 | 168 | 14 |
| 21 | 14 | 0 | 36 | 21 | 64 | 3 | 97 | 37 | 133 | 43 | 169 | 25 |
| 22 | 14 | 41 | 37 | 10 | 65 | 5 | 98 | 48 | 134 | 55 | 170 | 36 |
| 23 | 15 | 22 | 38 | 0 | 66 | 7 | 99 | 59 | 136 | 7 | 171 | 46 |
| 24 | 16 | 4 | 38 | 50 | 67 | 10 | 101 | 10 | 137 | 19 | 172 | 57 |
| 25 | 16 | 46 | 39 | 40 | 68 | 13 | 102 | 22 | 138 | 31 | 174 | 7 |
| 26 | 17 | 28 | 40 | 31 | 69 | 17 | 103 | 34 | 139 | 43 | 175 | 18 |
| 27 | 18 | 10 | 41 | 22 | 70 | 21 | 104 | 46 | 140 | 55 | 176 | 29 |
| 28 | 18 | 52 | 42 | 14 | 71 | 26 | 105 | 58 | 142 | 7 | 177 | 39 |
| 29 | 19 | 35 | 43 | 6 | 72 | 31 | 107 | 10 | 143 | 19 | 178 | 50 |
| 30 | 20 | 18 | 43 | 59 | 73 | 36 | 108 | 23 | 144 | 30 | 180 | 0 |

| G | ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g. | m. | ♒ g. | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 215 | 30 | 251 | 37 | 286 | 24 | 316 | 1 | 339 | 42 |
| 1 | 181 | 10 | 216 | 41 | 252 | 50 | 287 | 29 | 316 | 54 | 340 | 25 |
| 2 | 182 | 21 | 217 | 53 | 254 | 2 | 288 | 34 | 317 | 46 | 341 | 8 |
| 3 | 183 | 31 | 219 | 5 | 255 | 14 | 289 | 39 | 318 | 38 | 341 | 50 |
| 4 | 184 | 42 | 220 | 17 | 256 | 26 | 290 | 43 | 319 | 29 | 342 | 32 |
| 5 | 185 | 53 | 221 | 29 | 257 | 38 | 291 | 47 | 320 | 20 | 343 | 14 |
| 6 | 187 | 3 | 222 | 41 | 258 | 50 | 292 | 50 | 321 | 10 | 343 | 56 |
| 7 | 188 | 14 | 223 | 53 | 260 | 1 | 283 | 53 | 322 | 0 | 344 | 38 |
| 8 | 189 | 24 | 225 | 5 | 261 | 12 | 294 | 55 | 322 | 50 | 345 | 19 |
| 9 | 190 | 35 | 226 | 17 | 262 | 23 | 295 | 57 | 323 | 39 | 346 | 0 |
| 10 | 191 | 46 | 227 | 30 | 263 | 34 | 296 | 59 | 324 | 28 | 346 | 41 |
| 11 | 192 | 56 | 228 | 42 | 264 | 45 | 298 | 0 | 325 | 17 | 347 | 22 |
| 12 | 194 | 7 | 229 | 54 | 265 | 55 | 299 | 1 | 326 | 6 | 348 | 3 |
| 13 | 195 | 18 | 231 | 6 | 267 | 7 | 300 | 1 | 326 | 54 | 348 | 43 |
| 14 | 196 | 29 | 232 | 18 | 268 | 17 | 301 | 1 | 327 | 12 | 349 | 24 |
| 15 | 197 | 40 | 233 | 31 | 269 | 27 | 302 | 1 | 328 | 29 | 350 | 4 |
| 16 | 198 | 51 | 234 | 44 | 270 | 37 | 303 | 0 | 329 | 16 | 350 | 44 |
| 17 | 200 | 2 | 235 | 57 | 271 | 46 | 303 | 59 | 330 | 2 | 351 | 24 |
| 18 | 201 | 13 | 237 | 9 | 272 | 55 | 304 | 57 | 330 | 48 | 352 | 4 |
| 19 | 202 | 24 | 238 | 22 | 274 | 4 | 305 | 55 | 331 | 34 | 352 | 44 |
| 20 | 203 | 35 | 239 | 34 | 275 | 13 | 306 | 52 | 332 | 20 | 353 | 24 |
| 21 | 204 | 46 | 240 | 47 | 276 | 21 | 307 | 49 | 333 | 5 | 354 | 4 |
| 22 | 205 | 57 | 241 | 59 | 277 | 29 | 308 | 45 | 333 | 50 | 354 | 44 |
| 23 | 207 | 9 | 243 | 12 | 278 | 37 | 309 | 41 | 334 | 35 | 355 | 24 |
| 24 | 208 | 20 | 244 | 24 | 279 | 45 | 310 | 37 | 335 | 20 | 356 | 4 |
| 25 | 209 | 32 | 245 | 36 | 280 | 53 | 311 | 32 | 336 | 5 | 356 | 43 |
| 26 | 210 | 43 | 246 | 49 | 282 | 0 | 312 | 27 | 336 | 49 | 357 | 23 |
| 27 | 211 | 55 | 248 | 1 | 283 | 6 | 313 | 21 | 337 | 33 | 358 | 2 |
| 28 | 213 | 6 | 249 | 13 | 284 | 12 | 314 | 15 | 338 | 16 | 358 | 42 |
| 29 | 214 | 18 | 250 | 25 | 285 | 18 | 315 | 8 | 338 | 59 | 359 | 21 |
| 30 | 215 | 30 | 251 | 37 | 286 | 24 | 316 | 1 | 339 | 42 | 360 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 20 | 1 | 43 | 26 | 72 | 57 | 107 | 50 | 144 | 13 |
| 1 | | 0 | 38 | 20 | 43 | 44 | 19 | 74 | 3 | 109 | 2 | 145 | 26 |
| 2 | | 1 | 17 | 21 | 26 | 45 | 12 | 75 | 9 | 110 | 15 | 146 | 38 |
| 3 | | 1 | 56 | 22 | 9 | 46 | 6 | 76 | 15 | 111 | 27 | 147 | 50 |
| 4 | | 2 | 35 | 22 | 52 | 47 | 0 | 77 | 21 | 112 | 40 | 149 | 2 |
| 5 | | 3 | 14 | 23 | 35 | 47 | 54 | 78 | 28 | 113 | 53 | 150 | 14 |
| 6 | | 3 | 53 | 24 | 19 | 48 | 49 | 79 | 36 | 115 | 5 | 151 | 26 |
| 7 | | 4 | 32 | 25 | 3 | 49 | 44 | 80 | 44 | 116 | 18 | 152 | 38 |
| 8 | | 5 | 11 | 25 | 47 | 50 | 40 | 81 | 52 | 117 | 31 | 153 | 50 |
| 9 | | 5 | 50 | 26 | 32 | 51 | 36 | 83 | 0 | 118 | 44 | 155 | 2 |
| 10 | | 6 | 30 | 27 | 17 | 52 | 32 | 84 | 9 | 119 | 57 | 156 | 13 |
| 11 | | 7 | 9 | 28 | 2 | 53 | 29 | 85 | 18 | 121 | 10 | 157 | 25 |
| 12 | | 7 | 48 | 28 | 47 | 54 | 26 | 86 | 27 | 122 | 23 | 158 | 37 |
| 13 | | 8 | 28 | 29 | 33 | 55 | 24 | 87 | 37 | 123 | 37 | 159 | 48 |
| 14 | | 9 | 7 | 30 | 19 | 56 | 23 | 88 | 46 | 124 | 50 | 161 | 0 |
| 15 | | 9 | 47 | 31 | 5 | 57 | 22 | 89 | 56 | 126 | 3 | 162 | 11 |
| 16 | | 10 | 27 | 31 | 52 | 58 | 21 | 91 | 6 | 127 | 16 | 163 | 23 |
| 17 | | 11 | 7 | 32 | 39 | 59 | 21 | 92 | 17 | 128 | 29 | 164 | 34 |
| 18 | | 11 | 47 | 33 | 27 | 60 | 21 | 93 | 28 | 129 | 42 | 165 | 46 |
| 19 | | 12 | 27 | 34 | 15 | 61 | 22 | 94 | 39 | 130 | 55 | 166 | 57 |
| 20 | | 13 | 7 | 35 | 3 | 62 | 23 | 95 | 50 | 132 | 7 | 168 | 8 |
| 21 | | 13 | 48 | 35 | 52 | 63 | 24 | 97 | 1 | 133 | 20 | 169 | 20 |
| 22 | | 14 | 29 | 36 | 41 | 64 | 26 | 98 | 13 | 134 | 33 | 170 | 31 |
| 23 | | 15 | 10 | 37 | 30 | 65 | 28 | 99 | 24 | 135 | 46 | 171 | 42 |
| 24 | | 15 | 51 | 38 | 19 | 66 | 31 | 100 | 36 | 136 | 59 | 172 | 53 |
| 25 | | 16 | 32 | 39 | 9 | 67 | 34 | 101 | 48 | 138 | 11 | 174 | 4 |
| 26 | | 17 | 13 | 40 | 0 | 68 | 38 | 103 | 0 | 139 | 24 | 175 | 16 |
| 27 | | 17 | 55 | 40 | 51 | 69 | 42 | 104 | 12 | 140 | 36 | 176 | 27 |
| 28 | | 18 | 37 | 41 | 42 | 70 | 47 | 105 | 25 | 141 | 49 | 177 | 38 |
| 29 | | 19 | 19 | 42 | 34 | 71 | 52 | 106 | 37 | 143 | 1 | 178 | 49 |
| 30 | | 20 | 1 | 43 | 26 | 72 | 57 | 107 | 50 | 144 | 13 | 180 | 0 |

| G | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 215 | 47 | 252 | 10 | 287 | 3 | 316 | 34 | 339 | 59 |
| 1 | 181 | 11 | 216 | 59 | 253 | 23 | 288 | 8 | 317 | 26 | 340 | 41 |
| 2 | 182 | 22 | 218 | 11 | 254 | 35 | 289 | 13 | 318 | 18 | 341 | 23 |
| 3 | 183 | 33 | 219 | 24 | 255 | 48 | 290 | 18 | 319 | 9 | 342 | 5 |
| 4 | 184 | 44 | 220 | 36 | 257 | 0 | 291 | 22 | 320 | 0 | 342 | 47 |
| 5 | 185 | 56 | 221 | 49 | 258 | 12 | 292 | 26 | 320 | 51 | 343 | 28 |
| 6 | 187 | 7 | 223 | 1 | 259 | 24 | 293 | 29 | 321 | 41 | 344 | 9 |
| 7 | 188 | 18 | 224 | 14 | 260 | 36 | 294 | 32 | 322 | 30 | 344 | 50 |
| 8 | 189 | 29 | 225 | 27 | 261 | 47 | 295 | 34 | 323 | 19 | 345 | 31 |
| 9 | 190 | 40 | 226 | 40 | 262 | 59 | 296 | 36 | 324 | 8 | 346 | 12 |
| 10 | 191 | 52 | 227 | 53 | 264 | 10 | 297 | 37 | 324 | 57 | 346 | 53 |
| 11 | 193 | 3 | 229 | 5 | 265 | 21 | 298 | 38 | 325 | 45 | 347 | 33 |
| 12 | 194 | 14 | 230 | 18 | 266 | 32 | 299 | 39 | 326 | 33 | 348 | 13 |
| 13 | 195 | 26 | 231 | 31 | 267 | 43 | 300 | 39 | 327 | 21 | 348 | 53 |
| 14 | 196 | 37 | 232 | 44 | 268 | 54 | 301 | 39 | 328 | 8 | 349 | 33 |
| 15 | 197 | 49 | 233 | 57 | 270 | 4 | 302 | 38 | 328 | 55 | 350 | 13 |
| 16 | 199 | 0 | 235 | 10 | 271 | 14 | 303 | 37 | 329 | 41 | 350 | 53 |
| 17 | 200 | 12 | 236 | 23 | 272 | 23 | 304 | 36 | 330 | 27 | 351 | 32 |
| 18 | 201 | 23 | 237 | 37 | 273 | 33 | 305 | 34 | 331 | 13 | 352 | 12 |
| 19 | 202 | 35 | 238 | 50 | 274 | 42 | 306 | 31 | 331 | 58 | 352 | 51 |
| 20 | 203 | 47 | 240 | 3 | 275 | 51 | 307 | 28 | 332 | 43 | 353 | 30 |
| 21 | 204 | 58 | 241 | 16 | 277 | 0 | 308 | 24 | 333 | 28 | 354 | 10 |
| 22 | 206 | 10 | 242 | 29 | 278 | 8 | 309 | 20 | 334 | 13 | 354 | 49 |
| 23 | 207 | 22 | 243 | 42 | 279 | 16 | 310 | 16 | 334 | 57 | 355 | 28 |
| 24 | 208 | 34 | 244 | 55 | 280 | 24 | 311 | 11 | 335 | 41 | 356 | 7 |
| 25 | 209 | 46 | 246 | 7 | 281 | 32 | 312 | 6 | 336 | 25 | 356 | 46 |
| 26 | 210 | 58 | 247 | 20 | 282 | 39 | 313 | 0 | 337 | 8 | 357 | 25 |
| 27 | 212 | 10 | 248 | 33 | 283 | 45 | 313 | 54 | 337 | 51 | 358 | 4 |
| 28 | 213 | 22 | 249 | 45 | 284 | 51 | 314 | 48 | 338 | 34 | 358 | 43 |
| 29 | 214 | 34 | 250 | 58 | 285 | 57 | 315 | 41 | 339 | 17 | 359 | 22 |
| 30 | 215 | 47 | 252 | 10 | 287 | 3 | 316 | 34 | 339 | 59 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 19 | 24 | 42 | 10 | 71 | 35 | 106 | 42 | 143 | 36 |
| 1 | 0 | 37 | 20 | 5 | 43 | 10 | 72 | 41 | 107 | 55 | 144 | 50 |
| 2 | 1 | 15 | 20 | 46 | 44 | 2 | 73 | 47 | 109 | 9 | 146 | 3 |
| 3 | 1 | 52 | 21 | 28 | 44 | 55 | 74 | 53 | 110 | 22 | 147 | 17 |
| 4 | 2 | 30 | 22 | 10 | 45 | 48 | 76 | 0 | 111 | 36 | 148 | 30 |
| 5 | 3 | 8 | 22 | 52 | 46 | 42 | 77 | 7 | 112 | 50 | 149 | 43 |
| 6 | 3 | 46 | 23 | 35 | 47 | 36 | 78 | 15 | 114 | 3 | 150 | 57 |
| 7 | 4 | 24 | 24 | 18 | 48 | 30 | 79 | 23 | 115 | 17 | 152 | 10 |
| 8 | 5 | 2 | 25 | 1 | 49 | 25 | 80 | 31 | 116 | 30 | 153 | 23 |
| 9 | 5 | 40 | 25 | 45 | 50 | 20 | 81 | 40 | 117 | 44 | 154 | 36 |
| 10 | 6 | 18 | 26 | 29 | 51 | 16 | 82 | 49 | 118 | 58 | 155 | 49 |
| 11 | 6 | 56 | 27 | 13 | 52 | 12 | 83 | 58 | 120 | 12 | 157 | 2 |
| 12 | 7 | 34 | 27 | 57 | 53 | 9 | 85 | 8 | 121 | 26 | 158 | 15 |
| 13 | 8 | 12 | 28 | 41 | 54 | 7 | 86 | 18 | 122 | 40 | 159 | 28 |
| 14 | 8 | 50 | 29 | 26 | 55 | 5 | 87 | 28 | 123 | 55 | 160 | 41 |
| 15 | 9 | 29 | 30 | 11 | 56 | 4 | 88 | 38 | 125 | 9 | 161 | 53 |
| 16 | 10 | 7 | 30 | 57 | 57 | 3 | 89 | 49 | 126 | 23 | 163 | 6 |
| 17 | 10 | 46 | 31 | 43 | 58 | 2 | 91 | 0 | 127 | 37 | 164 | 19 |
| 18 | 11 | 25 | 32 | 30 | 59 | 2 | 92 | 11 | 128 | 51 | 165 | 31 |
| 19 | 12 | 4 | 33 | 17 | 60 | 2 | 93 | 22 | 130 | 5 | 166 | 44 |
| 20 | 12 | 43 | 34 | 4 | 61 | 3 | 94 | 34 | 131 | 19 | 167 | 56 |
| 21 | 13 | 22 | 34 | 52 | 62 | 4 | 95 | 46 | 132 | 33 | 169 | 9 |
| 22 | 14 | 1 | 35 | 40 | 63 | 6 | 96 | 58 | 133 | 47 | 170 | 21 |
| 23 | 14 | 41 | 36 | 28 | 64 | 8 | 98 | 10 | 135 | 1 | 171 | 34 |
| 24 | 15 | 21 | 37 | 17 | 65 | 10 | 99 | 23 | 136 | 15 | 172 | 46 |
| 25 | 16 | 1 | 38 | 6 | 66 | 13 | 100 | 36 | 137 | 28 | 173 | 58 |
| 26 | 16 | 41 | 38 | 56 | 67 | 16 | 101 | 49 | 138 | 42 | 175 | 11 |
| 27 | 17 | 21 | 39 | 46 | 68 | 20 | 103 | 2 | 139 | 56 | 176 | 23 |
| 28 | 18 | 2 | 40 | 36 | 69 | 24 | 104 | 15 | 141 | 9 | 177 | 36 |
| 29 | 18 | 43 | 41 | 27 | 70 | 29 | 105 | 28 | 142 | 23 | 178 | 48 |
| 30 | 19 | 24 | 42 | 18 | 71 | 35 | 106 | 42 | 143 | 36 | 180 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 216 | 24 | 253 | 18 | 288 | 25 | 317 | 42 | 340 | 36 |
| 1 | 181 | 12 | 217 | 37 | 254 | 32 | 289 | 31 | 318 | 33 | 341 | 17 |
| 2 | 182 | 24 | 218 | 51 | 255 | 45 | 290 | 36 | 319 | 24 | 341 | 58 |
| 3 | 183 | 37 | 220 | 4 | 256 | 58 | 291 | 40 | 320 | 14 | 342 | 39 |
| 4 | 184 | 49 | 221 | 18 | 258 | 11 | 292 | 44 | 321 | 4 | 343 | 19 |
| 5 | 186 | 2 | 222 | 32 | 259 | 24 | 293 | 47 | 321 | 54 | 343 | 59 |
| 6 | 187 | 14 | 223 | 45 | 260 | 37 | 294 | 50 | 322 | 43 | 344 | 39 |
| 7 | 188 | 26 | 224 | 59 | 261 | 50 | 295 | 52 | 323 | 32 | 345 | 19 |
| 8 | 189 | 39 | 226 | 13 | 263 | 2 | 296 | 54 | 324 | 20 | 345 | 59 |
| 9 | 190 | 51 | 227 | 27 | 264 | 14 | 297 | 56 | 325 | 8 | 346 | 38 |
| 10 | 192 | 4 | 228 | 41 | 265 | 26 | 298 | 57 | 325 | 56 | 347 | 17 |
| 11 | 193 | 16 | 229 | 55 | 266 | 38 | 299 | 58 | 326 | 43 | 347 | 56 |
| 12 | 194 | 29 | 231 | 9 | 267 | 49 | 300 | 58 | 327 | 30 | 348 | 35 |
| 13 | 195 | 41 | 232 | 23 | 269 | 0 | 301 | 58 | 328 | 17 | 349 | 14 |
| 14 | 196 | 54 | 233 | 37 | 270 | 11 | 302 | 57 | 329 | 3 | 349 | 53 |
| 15 | 198 | 7 | 234 | 51 | 271 | 22 | 303 | 56 | 329 | 49 | 350 | 31 |
| 16 | 199 | 19 | 236 | 5 | 272 | 32 | 304 | 55 | 330 | 34 | 351 | 10 |
| 17 | 200 | 32 | 237 | 20 | 273 | 42 | 305 | 53 | 331 | 19 | 351 | 48 |
| 18 | 201 | 45 | 238 | 34 | 274 | 52 | 306 | 51 | 332 | 3 | 352 | 26 |
| 19 | 202 | 58 | 239 | 48 | 276 | 2 | 307 | 48 | 332 | 47 | 353 | 4 |
| 20 | 204 | 11 | 241 | 2 | 277 | 11 | 308 | 44 | 333 | 31 | 353 | 42 |
| 21 | 205 | 24 | 242 | 16 | 278 | 20 | 309 | 40 | 334 | 1[illegible] | 354 | 20 |
| 22 | 206 | 37 | 243 | 30 | 279 | 29 | 310 | 35 | 334 | 59 | 354 | 58 |
| 23 | 207 | 50 | 244 | 43 | 280 | 37 | 311 | 30 | 335 | 42 | 355 | 36 |
| 24 | 209 | 3 | 245 | 57 | 281 | 45 | 312 | 24 | 336 | 25 | 356 | 14 |
| 25 | 210 | 17 | 247 | 10 | 282 | 53 | 313 | 18 | 337 | 8 | 356 | 52 |
| 26 | 211 | 30 | 248 | 24 | 284 | 0 | 314 | 12 | 337 | 50 | 357 | 30 |
| 27 | 212 | 43 | 249 | 38 | 285 | 7 | 315 | 5 | 338 | 32 | 358 | 8 |
| 28 | 213 | 57 | 250 | 51 | 286 | 13 | 315 | 58 | 339 | 14 | 358 | 45 |
| 29 | 215 | 10 | 252 | 5 | 287 | 19 | 316 | 50 | 339 | 55 | 359 | 23 |
| 30 | 216 | 24 | 253 | 18 | 288 | 25 | 317 | 42 | 340 | 36 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 20 | 53 | 45 | 2 | 74 | 51 | 109 | 26 | 145 | 5 |
| 1 | 0 | 40 | 21 | 37 | 45 | 56 | 75 | 56 | 110 | 37 | 146 | 16 |
| 2 | 1 | 21 | 22 | 21 | 46 | 50 | 77 | 2 | 111 | 48 | 147 | 26 |
| 3 | 2 | 1 | 23 | 5 | 47 | 45 | 78 | 8 | 113 | 0 | 148 | 37 |
| 4 | 2 | 42 | 23 | 50 | 48 | 40 | 79 | 15 | 114 | 11 | 149 | 47 |
| 5 | 3 | 23 | 24 | 35 | 49 | 35 | 80 | 22 | 115 | 23 | 150 | 57 |
| 6 | 4 | 4 | 25 | 20 | 50 | 31 | 81 | 29 | 116 | 34 | 152 | 8 |
| 7 | 4 | 45 | 26 | 6 | 51 | 27 | 82 | 37 | 117 | 45 | 153 | 18 |
| 8 | 5 | 26 | 26 | 52 | 52 | 24 | 83 | 45 | 118 | 57 | 154 | 28 |
| 9 | 6 | 7 | 27 | 38 | 53 | 21 | 84 | 53 | 120 | 8 | 155 | 38 |
| 10 | 6 | 48 | 28 | 25 | 54 | 18 | 86 | 1 | 121 | 20 | 156 | 48 |
| 11 | 7 | 29 | 29 | 12 | 55 | 16 | 87 | 10 | 122 | 31 | 157 | 58 |
| 12 | 8 | 10 | 29 | 59 | 56 | 14 | 88 | 19 | 123 | 43 | 159 | 8 |
| 13 | 8 | 51 | 30 | 46 | 57 | 13 | 89 | 28 | 124 | 55 | 160 | 18 |
| 14 | 9 | 32 | 31 | 33 | 58 | 12 | 90 | 37 | 126 | 7 | 161 | 28 |
| 15 | 10 | 14 | 32 | 21 | 59 | 12 | 91 | 46 | 127 | 19 | 162 | 38 |
| 16 | 10 | 55 | 33 | 9 | 60 | 12 | 92 | 56 | 128 | 31 | 163 | 48 |
| 17 | 11 | 37 | 33 | 58 | 61 | 12 | 94 | 6 | 129 | 42 | 164 | 58 |
| 18 | 12 | 18 | 34 | 47 | 62 | 13 | 95 | 16 | 130 | 53 | 166 | 7 |
| 19 | 13 | 0 | 35 | 36 | 63 | 14 | 96 | 26 | 132 | 4 | 167 | 17 |
| 20 | 13 | 42 | 36 | 26 | 64 | 15 | 97 | 36 | 133 | 15 | 168 | 26 |
| 21 | 14 | 24 | 37 | 16 | 65 | 17 | 98 | 46 | 134 | 27 | 169 | 36 |
| 22 | 15 | 7 | 38 | 6 | 66 | 19 | 99 | 57 | 135 | 38 | 170 | 45 |
| 23 | 15 | 49 | 38 | 57 | 67 | 22 | 101 | 7 | 136 | 49 | 171 | 55 |
| 24 | 16 | 32 | 39 | 48 | 68 | 25 | 102 | 18 | 138 | 0 | 173 | 4 |
| 25 | 17 | 15 | 40 | 39 | 69 | 28 | 103 | 29 | 139 | 11 | 174 | 13 |
| 26 | 17 | 58 | 41 | 31 | 70 | 32 | 104 | 40 | 140 | 22 | 175 | 23 |
| 27 | 18 | 42 | 42 | 23 | 71 | 36 | 105 | 51 | 141 | 33 | 176 | 32 |
| 28 | 19 | 25 | 43 | 16 | 72 | 41 | 107 | 3 | 142 | 44 | 177 | 42 |
| 29 | 20 | 9 | 44 | 9 | 73 | 46 | 108 | 14 | 143 | 55 | 178 | 51 |
| 30 | 20 | 53 | 45 | 2 | 74 | 51 | 109 | 26 | 145 | 5 | 180 | 0 |

| G | ♎ g. m. | ♏ g. m. | ♐ g. m. | ♑ g. m. | ♒ g m. | ♓ g. m. |
|---|---|---|---|---|---|---|
| 0 | 180 0 | 214 55 | 250 34 | 285 9 | 314 58 | 339 7 |
| 1 | 181 9 | 216 5 | 251 46 | 286 14 | 315 51 | 339 51 |
| 2 | 182 18 | 217 16 | 252 57 | 287 19 | 316 44 | 340 35 |
| 3 | 183 28 | 218 27 | 254 9 | 288 24 | 317 37 | 341 18 |
| 4 | 184 37 | 219 38 | 255 20 | 289 28 | 318 29 | 342 2 |
| 5 | 185 47 | 220 49 | 256 31 | 290 32 | 319 21 | 342 45 |
| 6 | 186 56 | 222 0 | 257 42 | 291 35 | 320 12 | 343 28 |
| 7 | 188 5 | 223 11 | 258 53 | 292 38 | 321 3 | 344 11 |
| 8 | 189 15 | 224 22 | 260 3 | 293 41 | 321 54 | 344 53 |
| 9 | 190 24 | 225 33 | 261 14 | 294 43 | 322 44 | 345 36 |
| 0 | 191 34 | 226 45 | 262 24 | 295 45 | 323 34 | 346 18 |
| 1 | 192 43 | 227 56 | 263 34 | 296 46 | 324 24 | 347 0 |
| 2 | 193 53 | 229 7 | 264 44 | 297 47 | 325 13 | 347 42 |
| 3 | 195 2 | 230 18 | 265 54 | 298 48 | 326 2 | 348 23 |
| 4 | 196 12 | 231 29 | 267 4 | 299 48 | 326 51 | 349 5 |
| 5 | 197 22 | 232 41 | 268 14 | 300 48 | 327 39 | 349 46 |
| | 198 32 | 233 53 | 269 23 | 301 48 | 328 27 | 350 28 |
| | 199 42 | 235 5 | 270 32 | 302 47 | 329 14 | 351 9 |
| | 200 52 | 236 17 | 271 41 | 303 46 | 330 1 | 351 50 |
| | 202 2 | 237 29 | 272 50 | 304 44 | 330 48 | 352 31 |
| | 203 12 | 238 40 | 273 59 | 305 42 | 331 35 | 353 12 |
| | 204 22 | 239 52 | 275 7 | 306 39 | 332 22 | 353 53 |
| | 205 32 | 241 3 | 276 15 | 307 36 | 333 8 | 354 34 |
| | 206 42 | 242 15 | 277 23 | 308 33 | 233 54 | 355 15 |
| | 207 52 | 243 26 | 278 31 | 309 29 | 334 40 | 355 56 |
| | 209 3 | 244 37 | 279 38 | 310 2 | 335 25 | 356 37 |
| | 210 13 | 245 49 | 280 45 | 311 20 | 336 10 | 357 18 |
| | 211 23 | 247 0 | 281 52 | 312 15 | 336 55 | 357 59 |
| | 212 34 | 248 12 | 282 58 | 313 10 | 337 39 | 358 39 |
| | 213 44 | 249 23 | 284 4 | 314 4 | 338 23 | 359 20 |
| | 214 55 | 250 34 | 285 9 | 214 58 | 339 7 | 360 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 20 | 36 | 44 | 31 | 74 | 14 | 108 | 55 | 144 | 48 |
| 1 | | 0 | 40 | 21 | 20 | 45 | 25 | 75 | 19 | 110 | 6 | 145 | 59 |
| 2 | | 1 | 20 | 22 | 4 | 46 | 19 | 76 | 25 | 111 | 18 | 147 | 10 |
| 3 | | 2 | 0 | 22 | 48 | 47 | 13 | 77 | 31 | 112 | 30 | 148 | 21 |
| 4 | | 2 | 40 | 23 | 32 | 48 | 7 | 78 | 38 | 113 | 42 | 149 | 32 |
| 5 | | 3 | 20 | 24 | 16 | 49 | 2 | 79 | 45 | 114 | 54 | 150 | 43 |
| 6 | | 4 | 0 | 25 | 1 | 49 | 58 | 80 | 53 | 116 | 5 | 151 | 54 |
| 7 | | 4 | 40 | 25 | 46 | 50 | 54 | 82 | 1 | 117 | 17 | 153 | 5 |
| 8 | | 5 | 21 | 26 | 31 | 51 | 50 | 83 | 9 | 118 | 29 | 154 | 16 |
| 9 | | 6 | 1 | 27 | 17 | 52 | 46 | 84 | 17 | 119 | 41 | 155 | 27 |
| 10 | | 6 | 42 | 28 | 3 | 53 | 43 | 85 | 25 | 120 | 53 | 156 | 37 |
| 11 | | 7 | 22 | 28 | 49 | 54 | 40 | 86 | 34 | 122 | 5 | 157 | 48 |
| 12 | | 8 | 3 | 29 | 36 | 55 | 38 | 87 | 43 | 123 | 17 | 158 | 58 |
| 13 | | 8 | 43 | 30 | 22 | 56 | 37 | 88 | 52 | 124 | 30 | 160 | 9 |
| 14 | | 9 | 24 | 31 | 9 | 57 | 36 | 90 | 1 | 125 | 42 | 161 | 19 |
| 15 | | 10 | 5 | 31 | 56 | 58 | 36 | 91 | 10 | 126 | 54 | 162 | 29 |
| 16 | | 10 | 46 | 32 | 44 | 59 | 36 | 92 | 20 | 128 | 6 | 163 | 40 |
| 17 | | 11 | 27 | 33 | 33 | 60 | 36 | 93 | 30 | 129 | 18 | 164 | 50 |
| 18 | | 12 | 8 | 34 | 21 | 61 | 37 | 94 | 40 | 130 | 30 | 166 | 0 |
| 19 | | 12 | 49 | 35 | 10 | 62 | 38 | 95 | 50 | 131 | 42 | 167 | 10 |
| 20 | | 13 | 31 | 35 | 59 | 63 | 39 | 97 | 1 | 132 | 53 | 168 | 20 |
| 21 | | 14 | 13 | 36 | 49 | 64 | 41 | 98 | 12 | 134 | 5 | 169 | 30 |
| 22 | | 14 | 55 | 37 | 39 | 65 | 43 | 99 | 23 | 135 | 17 | 170 | 40 |
| 23 | | 15 | 37 | 38 | 29 | 66 | 45 | 100 | 34 | 136 | 29 | 171 | 50 |
| 24 | | 16 | 19 | 39 | 19 | 67 | 48 | 101 | 45 | 137 | 41 | 173 | 0 |
| 25 | | 17 | 1 | 40 | 10 | 68 | 51 | 102 | 56 | 138 | 52 | 174 | 10 |
| 26 | | 17 | 44 | 41 | 2 | 69 | 55 | 104 | 7 | 140 | 4 | 175 | 20 |
| 27 | | 18 | 27 | 41 | 54 | 70 | 59 | 105 | 19 | 141 | 15 | 176 | 30 |
| 28 | | 19 | 10 | 42 | 46 | 72 | 4 | 106 | 31 | 142 | 26 | 177 | 40 |
| 29 | | 19 | 53 | 43 | 38 | 73 | 9 | 107 | 43 | 143 | 37 | 178 | 50 |
| 30 | | 20 | 36 | 44 | 31 | 74 | 14 | 108 | 55 | 144 | 48 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 215 | 12 | 251 | 5 | 285 | 46 | 315 | 29 | 339 | 24 |
| 1 | 181 | 10 | 216 | 23 | 252 | 17 | 286 | 51 | 316 | 22 | 340 | 7 |
| 2 | 182 | 20 | 217 | 34 | 253 | 29 | 287 | 56 | 317 | 14 | 340 | 50 |
| 3 | 183 | 30 | 218 | 45 | 254 | 41 | 289 | 1 | 318 | 6 | 341 | 33 |
| 4 | 184 | 40 | 219 | 56 | 255 | 53 | 290 | 5 | 318 | 58 | 342 | 16 |
| 5 | 185 | 50 | 221 | 8 | 257 | 4 | 291 | 9 | 319 | 50 | 342 | 59 |
| 6 | 187 | 0 | 222 | 19 | 258 | 15 | 292 | 12 | 320 | 41 | 343 | 41 |
| 7 | 188 | 10 | 223 | 31 | 259 | 26 | 293 | 15 | 321 | 31 | 344 | 23 |
| 8 | 189 | 20 | 224 | 43 | 260 | 37 | 294 | 17 | 322 | 21 | 345 | 5 |
| 9 | 190 | 30 | 225 | 55 | 261 | 48 | 295 | 19 | 323 | 11 | 345 | 47 |
| 10 | 191 | 40 | 227 | 7 | 262 | 59 | 296 | 21 | 324 | 1 | 346 | 29 |
| 11 | 192 | 50 | 228 | 18 | 264 | 10 | 297 | 22 | 324 | 50 | 347 | 11 |
| 12 | 194 | 0 | 229 | 30 | 265 | 20 | 298 | 23 | 325 | 39 | 347 | 52 |
| 13 | 195 | 10 | 230 | 42 | 266 | 30 | 299 | 24 | 326 | 27 | 348 | 33 |
| 14 | 196 | 20 | 231 | 54 | 267 | 40 | 300 | 24 | 327 | 10 | 349 | 14 |
| 15 | 197 | 31 | 233 | 6 | 268 | 50 | 301 | 24 | 328 | 4 | 349 | 55 |
| 16 | 198 | 41 | 234 | 18 | 269 | 59 | 302 | 24 | 328 | 51 | 350 | 36 |
| 17 | 199 | 51 | 235 | 30 | 271 | 8 | 303 | 23 | 329 | 38 | 351 | 17 |
| 18 | 201 | 2 | 236 | 43 | 272 | 17 | 304 | 22 | 330 | 24 | 351 | 57 |
| 19 | 202 | 12 | 237 | 55 | 273 | 26 | 305 | 20 | 331 | 11 | 352 | 38 |
| 20 | 203 | 23 | 239 | 7 | 274 | 35 | 306 | 17 | 331 | 57 | 353 | 18 |
| 21 | 204 | 33 | 240 | 19 | 275 | 43 | 307 | 14 | 332 | 43 | 353 | 59 |
| 22 | 205 | 44 | 241 | 31 | 276 | 51 | 308 | 10 | 333 | 29 | 354 | 39 |
| 23 | 206 | 55 | 242 | 43 | 277 | 59 | 309 | 6 | 334 | 14 | 355 | 20 |
| 24 | 208 | 6 | 243 | 55 | 279 | 7 | 310 | 2 | 334 | 59 | 356 | 0 |
| 25 | 209 | 17 | 245 | 6 | 280 | 15 | 310 | 58 | 335 | 44 | 356 | 40 |
| 26 | 210 | 28 | 246 | 18 | 281 | 22 | 311 | 53 | 336 | 28 | 357 | 20 |
| 27 | 211 | 39 | 247 | 30 | 282 | 29 | 312 | 47 | 337 | 12 | 358 | 0 |
| 28 | 212 | 50 | 248 | 42 | 283 | 35 | 313 | 41 | 337 | 56 | 358 | 40 |
| 29 | 214 | 1 | 249 | 54 | 284 | 41 | 314 | 35 | 338 | 40 | 359 | 20 |
| 30 | 215 | 12 | 251 | 5 | 285 | 46 | 315 | 29 | 339 | 24 | 350 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 20 | 18 | 43 | 59 | 73 | 36 | 108 | 23 | 144 | 30 |
| 1 | | 0 | 39 | 21 | 1 | 44 | 52 | 74 | 42 | 109 | 35 | 145 | 42 |
| 2 | | 1 | 18 | 21 | 44 | 45 | 45 | 75 | 48 | 110 | 47 | 146 | 54 |
| 3 | | 1 | 58 | 22 | 27 | 46 | 39 | 76 | 54 | 111 | 59 | 148 | 5 |
| 4 | | 2 | 37 | 23 | 11 | 47 | 33 | 78 | 0 | 113 | 11 | 149 | 17 |
| 5 | | 3 | 17 | 23 | 55 | 48 | 28 | 79 | 7 | 114 | 24 | 150 | 28 |
| 6 | | 3 | 56 | 24 | 40 | 49 | 23 | 80 | 15 | 115 | 36 | 151 | 40 |
| 7 | | 4 | 36 | 25 | 25 | 50 | 19 | 81 | 23 | 116 | 48 | 152 | 51 |
| 8 | | 5 | 16 | 26 | 10 | 51 | 15 | 82 | 31 | 118 | 1 | 154 | 3 |
| 9 | | 5 | 56 | 26 | 55 | 52 | 11 | 83 | 39 | 119 | 13 | 155 | 14 |
| 10 | | 6 | 36 | 27 | 40 | 53 | 8 | 84 | 47 | 120 | 26 | 156 | 25 |
| 11 | | 7 | 16 | 28 | 26 | 54 | 5 | 85 | 56 | 121 | 38 | 157 | 36 |
| 12 | | 7 | 56 | 29 | 12 | 55 | 3 | 87 | 5 | 122 | 51 | 158 | 47 |
| 13 | | 8 | 36 | 29 | 58 | 56 | 1 | 88 | 14 | 124 | 3 | 159 | 58 |
| 14 | | 9 | 16 | 30 | 44 | 57 | 0 | 89 | 23 | 125 | 16 | 161 | 9 |
| 15 | | 9 | 56 | 31 | 31 | 57 | 59 | 90 | 33 | 126 | 29 | 162 | 20 |
| 16 | | 10 | 36 | 32 | 18 | 58 | 59 | 91 | 43 | 127 | 42 | 163 | 31 |
| 17 | | 11 | 17 | 33 | 6 | 59 | 59 | 92 | 53 | 128 | 54 | 164 | 42 |
| 18 | | 11 | 57 | 33 | 54 | 60 | 59 | 94 | 4 | 130 | 6 | 165 | 53 |
| 19 | | 12 | 38 | 34 | 43 | 62 | 0 | 95 | 15 | 131 | 18 | 167 | 4 |
| 20 | | 13 | 19 | 35 | 32 | 63 | 1 | 96 | 26 | 132 | 30 | 168 | 14 |
| 21 | | 14 | 0 | 36 | 21 | 64 | 3 | 97 | 37 | 133 | 43 | 169 | 25 |
| 22 | | 14 | 41 | 37 | 10 | 65 | 5 | 98 | 48 | 134 | 55 | 170 | 36 |
| 23 | | 15 | 22 | 38 | 0 | 66 | 7 | 99 | 59 | 136 | 7 | 171 | 46 |
| 24 | | 16 | 4 | 38 | 50 | 67 | 10 | 101 | 10 | 137 | 19 | 172 | 57 |
| 25 | | 16 | 46 | 39 | 40 | 68 | 13 | 102 | 22 | 138 | 31 | 174 | 7 |
| 26 | | 17 | 28 | 40 | 31 | 69 | 17 | 103 | 34 | 139 | 43 | 175 | 18 |
| 27 | | 18 | 10 | 41 | 22 | 70 | 21 | 104 | 46 | 140 | 55 | 176 | 29 |
| 28 | | 18 | 52 | 42 | 14 | 71 | 26 | 105 | 58 | 142 | 7 | 177 | 39 |
| 29 | | 19 | 35 | 43 | 6 | 72 | 31 | 107 | 10 | 143 | 19 | 178 | 50 |
| 30 | | 20 | 18 | 43 | 59 | 73 | 36 | 108 | 23 | 144 | 30 | 180 | 0 |

| G | ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g. | m. | ♒ g. | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 215 | 30 | 251 | 37 | 286 | 24 | 316 | 1 | 339 | 42 |
| 1 | 181 | 10 | 216 | 41 | 252 | 50 | 287 | 29 | 316 | 54 | 340 | 25 |
| 2 | 182 | 21 | 217 | 53 | 254 | 2 | 288 | 34 | 317 | 46 | 341 | 8 |
| 3 | 183 | 31 | 219 | 5 | 255 | 14 | 289 | 39 | 318 | 38 | 341 | 50 |
| 4 | 184 | 42 | 220 | 17 | 256 | 26 | 290 | 43 | 319 | 29 | 342 | 32 |
| 5 | 185 | 53 | 221 | 29 | 257 | 38 | 291 | 47 | 320 | 20 | 343 | 14 |
| 6 | 187 | 3 | 222 | 41 | 258 | 50 | 292 | 50 | 321 | 10 | 343 | 56 |
| 7 | 188 | 14 | 223 | 53 | 260 | 1 | 283 | 53 | 322 | 0 | 344 | 38 |
| 8 | 189 | 24 | 225 | 5 | 261 | 12 | 294 | 55 | 322 | 50 | 345 | 19 |
| 9 | 190 | 35 | 226 | 17 | 262 | 23 | 295 | 57 | 323 | 39 | 346 | 0 |
| 10 | 191 | 46 | 227 | 30 | 263 | 34 | 296 | 59 | 324 | 28 | 346 | 41 |
| 11 | 192 | 56 | 228 | 42 | 264 | 45 | 298 | 0 | 325 | 17 | 347 | 22 |
| 12 | 194 | 7 | 229 | 54 | 265 | 55 | 299 | 1 | 326 | 6 | 348 | 3 |
| 13 | 195 | 18 | 231 | 6 | 267 | 7 | 300 | 1 | 326 | 54 | 348 | 43 |
| 14 | 196 | 29 | 232 | 18 | 268 | 17 | 301 | 1 | 327 | 12 | 349 | 24 |
| 15 | 197 | 40 | 233 | 31 | 269 | 27 | 302 | 1 | 328 | 29 | 350 | 4 |
| 16 | 198 | 51 | 234 | 44 | 270 | 37 | 303 | 0 | 329 | 16 | 350 | 44 |
| 17 | 200 | 2 | 235 | 57 | 271 | 46 | 303 | 59 | 330 | 2 | 351 | 24 |
| 18 | 201 | 13 | 237 | 9 | 272 | 55 | 304 | 57 | 330 | 48 | 352 | 4 |
| 19 | 202 | 24 | 238 | 22 | 274 | 4 | 305 | 55 | 331 | 34 | 352 | 44 |
| 20 | 203 | 35 | 239 | 34 | 275 | 13 | 306 | 52 | 332 | 20 | 353 | 24 |
| 21 | 204 | 46 | 240 | 47 | 276 | 21 | 307 | 49 | 333 | 5 | 354 | 4 |
| 22 | 205 | 57 | 241 | 59 | 277 | 29 | 308 | 45 | 333 | 50 | 354 | 44 |
| 23 | 207 | 9 | 243 | 12 | 278 | 37 | 309 | 41 | 334 | 35 | 355 | 24 |
| 24 | 208 | 20 | 244 | 24 | 279 | 45 | 310 | 37 | 335 | 20 | 356 | 4 |
| 25 | 209 | 32 | 245 | 36 | 280 | 53 | 311 | 32 | 336 | 5 | 356 | 43 |
| 26 | 210 | 43 | 246 | 49 | 282 | 0 | 312 | 27 | 336 | 49 | 357 | 23 |
| 27 | 211 | 55 | 248 | 1 | 283 | 6 | 313 | 21 | 337 | 33 | 358 | 2 |
| 28 | 213 | 6 | 249 | 13 | 284 | 12 | 314 | 15 | 338 | 16 | 358 | 42 |
| 29 | 214 | 18 | 250 | 25 | 285 | 18 | 315 | 8 | 338 | 59 | 359 | 21 |
| 30 | 215 | 30 | 251 | 37 | 286 | 24 | 316 | 1 | 339 | 42 | 360 | 0 |

| G | ♈ g. | ♈ m. | ♉ g. | ♉ m. | ♊ g. | ♊ m. | ♋ g. | ♋ m. | ♌ g. | ♌ m. | ♍ g. | ♍ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 20 | 1 | 43 | 26 | 72 | 57 | 107 | 50 | 144 | 13 |
| 1 | 0 | 38 | 20 | 43 | 44 | 19 | 74 | 3 | 109 | 2 | 145 | 26 |
| 2 | 1 | 17 | 21 | 26 | 45 | 12 | 75 | 9 | 110 | 15 | 146 | 38 |
| 3 | 1 | 56 | 22 | 9 | 46 | 6 | 76 | 15 | 111 | 27 | 147 | 50 |
| 4 | 2 | 35 | 22 | 52 | 47 | 0 | 77 | 21 | 112 | 40 | 149 | 2 |
| 5 | 3 | 14 | 23 | 35 | 47 | 54 | 78 | 28 | 113 | 53 | 150 | 14 |
| 6 | 3 | 53 | 24 | 19 | 48 | 49 | 79 | 36 | 115 | 5 | 151 | 26 |
| 7 | 4 | 32 | 25 | 3 | 49 | 44 | 80 | 44 | 116 | 18 | 152 | 38 |
| 8 | 5 | 11 | 25 | 47 | 50 | 40 | 81 | 52 | 117 | 31 | 153 | 50 |
| 9 | 5 | 50 | 26 | 32 | 51 | 36 | 83 | 0 | 118 | 44 | 155 | 2 |
| 10 | 6 | 30 | 27 | 17 | 52 | 32 | 84 | 9 | 119 | 57 | 156 | 13 |
| 11 | 7 | 9 | 28 | 2 | 53 | 29 | 85 | 18 | 121 | 10 | 157 | 25 |
| 12 | 7 | 48 | 28 | 47 | 54 | 26 | 86 | 27 | 122 | 23 | 158 | 37 |
| 13 | 8 | 28 | 29 | 33 | 55 | 24 | 87 | 37 | 123 | 37 | 159 | 48 |
| 14 | 9 | 7 | 30 | 19 | 56 | 23 | 88 | 46 | 124 | 50 | 161 | 0 |
| 15 | 9 | 47 | 31 | 5 | 57 | 22 | 89 | 56 | 126 | 3 | 162 | 11 |
| 16 | 10 | 27 | 31 | 52 | 58 | 21 | 91 | 6 | 127 | 16 | 163 | 23 |
| 17 | 11 | 7 | 32 | 39 | 59 | 21 | 92 | 17 | 128 | 29 | 164 | 34 |
| 18 | 11 | 47 | 33 | 27 | 60 | 21 | 93 | 28 | 129 | 42 | 165 | 46 |
| 19 | 12 | 27 | 34 | 15 | 61 | 22 | 94 | 39 | 130 | 55 | 166 | 57 |
| 20 | 13 | 7 | 35 | 3 | 62 | 23 | 95 | 50 | 132 | 7 | 168 | 8 |
| 21 | 13 | 48 | 35 | 52 | 63 | 24 | 97 | 1 | 133 | 20 | 169 | 20 |
| 22 | 14 | 29 | 36 | 41 | 64 | 26 | 98 | 13 | 134 | 33 | 170 | 31 |
| 23 | 15 | 10 | 37 | 30 | 65 | 28 | 99 | 24 | 135 | 46 | 171 | 42 |
| 24 | 15 | 51 | 38 | 19 | 66 | 31 | 100 | 36 | 136 | 59 | 172 | 53 |
| 25 | 16 | 32 | 39 | 9 | 67 | 34 | 101 | 48 | 138 | 11 | 174 | 4 |
| 26 | 17 | 13 | 40 | 0 | 68 | 38 | 103 | 0 | 139 | 24 | 175 | 16 |
| 27 | 17 | 55 | 40 | 51 | 69 | 42 | 104 | 12 | 140 | 36 | 176 | 27 |
| 28 | 18 | 37 | 41 | 42 | 70 | 47 | 105 | 25 | 141 | 49 | 177 | 38 |
| 29 | 19 | 19 | 42 | 34 | 71 | 52 | 106 | 37 | 143 | 1 | 178 | 49 |
| 30 | 20 | 1 | 43 | 26 | 72 | 57 | 107 | 50 | 144 | 13 | 180 | 0 |

| G | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g. | m. | g | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 215 | 47 | 252 | 10 | 287 | 3 | 316 | 34 | 339 | 59 |
| 1 | 181 | 11 | 216 | 59 | 253 | 23 | 288 | 8 | 317 | 26 | 340 | 41 |
| 2 | 182 | 22 | 218 | 11 | 254 | 35 | 289 | 13 | 318 | 18 | 341 | 23 |
| 3 | 183 | 33 | 219 | 24 | 255 | 48 | 290 | 18 | 319 | 9 | 342 | 5 |
| 4 | 184 | 44 | 220 | 36 | 257 | 0 | 291 | 22 | 320 | 0 | 342 | 47 |
| 5 | 185 | 56 | 221 | 49 | 258 | 12 | 292 | 26 | 320 | 51 | 343 | 28 |
| 6 | 187 | 7 | 223 | 1 | 259 | 24 | 293 | 29 | 321 | 41 | 344 | 9 |
| 7 | 188 | 18 | 224 | 14 | 260 | 36 | 294 | 32 | 322 | 30 | 344 | 50 |
| 8 | 189 | 29 | 225 | 27 | 261 | 47 | 295 | 34 | 323 | 19 | 345 | 31 |
| 9 | 190 | 40 | 226 | 40 | 262 | 59 | 296 | 36 | 324 | 8 | 346 | 12 |
| 10 | 191 | 52 | 227 | 53 | 264 | 10 | 297 | 37 | 324 | 57 | 346 | 53 |
| 11 | 193 | 3 | 229 | 5 | 265 | 21 | 298 | 38 | 325 | 45 | 347 | 33 |
| 12 | 194 | 14 | 230 | 18 | 266 | 32 | 299 | 39 | 326 | 33 | 348 | 13 |
| 13 | 195 | 26 | 231 | 31 | 267 | 43 | 300 | 39 | 327 | 21 | 348 | 53 |
| 14 | 196 | 37 | 232 | 44 | 268 | 54 | 301 | 39 | 328 | 8 | 349 | 33 |
| 15 | 197 | 49 | 233 | 57 | 270 | 4 | 302 | 38 | 328 | 55 | 350 | 13 |
| 16 | 199 | 0 | 235 | 10 | 271 | 14 | 303 | 37 | 329 | 41 | 350 | 53 |
| 17 | 200 | 12 | 236 | 23 | 272 | 23 | 304 | 36 | 330 | 27 | 351 | 32 |
| 18 | 201 | 23 | 237 | 37 | 273 | 33 | 305 | 34 | 331 | 13 | 352 | 12 |
| 19 | 202 | 35 | 238 | 50 | 274 | 42 | 306 | 31 | 331 | 58 | 352 | 51 |
| 20 | 203 | 47 | 240 | 3 | 275 | 51 | 307 | 28 | 332 | 43 | 353 | 30 |
| 21 | 204 | 58 | 241 | 16 | 277 | 0 | 308 | 24 | 333 | 28 | 354 | 10 |
| 22 | 206 | 10 | 242 | 29 | 278 | 8 | 309 | 20 | 334 | 13 | 354 | 49 |
| 23 | 207 | 22 | 243 | 42 | 279 | 16 | 310 | 16 | 334 | 57 | 355 | 28 |
| 24 | 208 | 34 | 244 | 55 | 280 | 24 | 311 | 11 | 335 | 41 | 356 | 7 |
| 25 | 209 | 46 | 246 | 7 | 281 | 32 | 312 | 6 | 336 | 25 | 356 | 46 |
| 26 | 210 | 58 | 247 | 20 | 282 | 39 | 313 | 0 | 337 | 8 | 357 | 25 |
| 27 | 212 | 10 | 248 | 33 | 283 | 45 | 313 | 54 | 337 | 51 | 358 | 4 |
| 28 | 213 | 22 | 249 | 45 | 284 | 51 | 314 | 48 | 338 | 34 | 358 | 43 |
| 29 | 214 | 34 | 250 | 58 | 285 | 57 | 315 | 41 | 339 | 17 | 359 | 22 |
| 30 | 215 | 47 | 252 | 10 | 287 | 3 | 316 | 34 | 339 | 59 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| | | 0 | 0 | 19 | 43 | 42 | 52 | 72 | 16 | 107 | 16 | 143 | 55 |
| 1 | | 0 | 38 | 20 | 25 | 43 | 44 | 73 | 22 | 108 | 29 | 145 | 8 |
| 2 | | 1 | 16 | 21 | 7 | 44 | 37 | 74 | 28 | 109 | 42 | 146 | 21 |
| 3 | | 1 | 54 | 21 | 49 | 45 | 30 | 75 | 34 | 110 | 55 | 147 | 33 |
| 4 | | 2 | 32 | 22 | 31 | 46 | 24 | 76 | 41 | 112 | 8 | 148 | 46 |
| 5 | | 3 | 11 | 23 | 14 | 47 | 18 | 77 | 48 | 113 | 22 | 149 | 58 |
| 6 | | 3 | 49 | 23 | 57 | 48 | 13 | 78 | 56 | 114 | 35 | 151 | 11 |
| 7 | | 4 | 28 | 24 | 40 | 49 | 8 | 80 | 4 | 115 | 48 | 152 | 24 |
| 8 | | 5 | 6 | 25 | 24 | 50 | 3 | 81 | 12 | 117 | 1 | 153 | 36 |
| 9 | | 5 | 45 | 26 | 8 | 50 | 59 | 82 | 20 | 118 | 14 | 154 | 49 |
| 10 | | 6 | 24 | 26 | 53 | 51 | 55 | 83 | 29 | 119 | 28 | 156 | 1 |
| 11 | | 7 | 2 | 27 | 38 | 52 | 52 | 84 | 38 | 120 | 41 | 157 | 14 |
| 12 | | 7 | 41 | 28 | 23 | 53 | 49 | 85 | 48 | 121 | 55 | 158 | 26 |
| 13 | | 8 | 20 | 29 | 8 | 54 | 47 | 86 | 57 | 123 | 9 | 159 | 38 |
| 14 | | 8 | 59 | 29 | 53 | 55 | 45 | 88 | 7 | 124 | 23 | 160 | 50 |
| 15 | | 9 | 38 | 30 | 39 | 56 | 43 | 89 | 17 | 125 | 37 | 162 | 2 |
| 16 | | 10 | 17 | 31 | 25 | 57 | 42 | 90 | 28 | 126 | 51 | 163 | 14 |
| 17 | | 10 | 56 | 32 | 12 | 58 | 41 | 91 | 39 | 128 | 4 | 164 | 26 |
| 18 | | 11 | 36 | 3 | 59 | 59 | 41 | 92 | 50 | 129 | 17 | 165 | 38 |
| 19 | | 12 | 15 | 33 | 46 | 60 | 42 | 94 | 1 | 130 | 30 | 166 | 50 |
| 20 | | 12 | 55 | 34 | 34 | 61 | 43 | 95 | 13 | 131 | 43 | 168 | 2 |
| 21 | | 13 | 35 | 35 | 22 | 62 | 45 | 96 | 24 | 132 | 57 | 169 | 14 |
| 22 | | 14 | 15 | 36 | 10 | 63 | 47 | 97 | 36 | 134 | 10 | 170 | 26 |
| 23 | | 14 | 55 | 36 | 59 | 64 | 49 | 98 | 48 | 135 | 24 | 171 | 38 |
| 24 | | 15 | 35 | 37 | 48 | 65 | 51 | 100 | 0 | 136 | 37 | 172 | 50 |
| 25 | | 16 | 16 | 38 | 38 | 66 | 54 | 101 | 12 | 137 | 50 | 174 | 1 |
| 26 | | 16 | 57 | 39 | 28 | 67 | 57 | 102 | 24 | 139 | 3 | 175 | 13 |
| 27 | | 17 | 38 | 40 | 18 | 69 | 1 | 103 | 37 | 140 | 16 | 176 | 25 |
| 28 | | 18 | 19 | 41 | 9 | 70 | 5 | 104 | 50 | 141 | 29 | 177 | 37 |
| 29 | | 19 | 1 | 42 | 0 | 71 | 10 | 106 | 3 | 142 | 42 | 178 | 49 |
| 30 | | 19 | 43 | 42 | 52 | 72 | 16 | 107 | 16 | 143 | 55 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 216 | 5 | 252 | 44 | 287 | 44 | 317 | 8 | 340 | 17 |
| 1 | 181 | 11 | 217 | 18 | 253 | 57 | 288 | 50 | 318 | 0 | 340 | 59 |
| 2 | 182 | 23 | 218 | 31 | 255 | 10 | 289 | 55 | 318 | 51 | 341 | 41 |
| 3 | 183 | 35 | 219 | 44 | 256 | 23 | 290 | 59 | 319 | 42 | 342 | 22 |
| 4 | 184 | 47 | 220 | 57 | 257 | 36 | 292 | 3 | 320 | 32 | 343 | 3 |
| 5 | 185 | 59 | 222 | 10 | 258 | 48 | 293 | 6 | 321 | 22 | 343 | 44 |
| 6 | 187 | 10 | 223 | 23 | 260 | 0 | 294 | 9 | 322 | 12 | 344 | 25 |
| 7 | 188 | 22 | 224 | 36 | 261 | 12 | 295 | 11 | 323 | 1 | 345 | 5 |
| 8 | 189 | 34 | 225 | 50 | 262 | 24 | 296 | 13 | 323 | 50 | 345 | 45 |
| 9 | 190 | 46 | 227 | 3 | 263 | 36 | 297 | 15 | 324 | 38 | 346 | 25 |
| 10 | 191 | 58 | 228 | 17 | 264 | 47 | 298 | 17 | 325 | 26 | 347 | 5 |
| 11 | 193 | 10 | 229 | 30 | 265 | 59 | 299 | 18 | 326 | 14 | 347 | 45 |
| 12 | 194 | 22 | 230 | 43 | 267 | 10 | 300 | 19 | 327 | 1 | 348 | 24 |
| 13 | 195 | 34 | 231 | 56 | 268 | 21 | 301 | 19 | 327 | 48 | 349 | 4 |
| 14 | 196 | 46 | 233 | 9 | 269 | 32 | 302 | 18 | 328 | 35 | 349 | 43 |
| 15 | 197 | 58 | 234 | 23 | 270 | 43 | 303 | 17 | 329 | 21 | 350 | 22 |
| 16 | 199 | 10 | 235 | 37 | 271 | 53 | 304 | 15 | 330 | 7 | 351 | 1 |
| 17 | 200 | 22 | 236 | 51 | 273 | 3 | 305 | 13 | 330 | 52 | 351 | 40 |
| 18 | 201 | 34 | 238 | 1 | 274 | 12 | 306 | 11 | 331 | 37 | 352 | 19 |
| 19 | 202 | 46 | 239 | 19 | 275 | 22 | 307 | 8 | 332 | 22 | 352 | 58 |
| 20 | 203 | 59 | 240 | 32 | 276 | 31 | 308 | 5 | 333 | 7 | 353 | 36 |
| 21 | 205 | 11 | 241 | 46 | 277 | 40 | 309 | 1 | 333 | 52 | 354 | 15 |
| 22 | 206 | 24 | 242 | 59 | 278 | 48 | 309 | 57 | 334 | 36 | 354 | 54 |
| 23 | 207 | 36 | 244 | 12 | 279 | 56 | 310 | 52 | 335 | 20 | 355 | 32 |
| 24 | 208 | 49 | 245 | 25 | 281 | 4 | 311 | 47 | 336 | 3 | 356 | 11 |
| 25 | 210 | 2 | 246 | 38 | 282 | 12 | 312 | 42 | 336 | 46 | 356 | 49 |
| 26 | 211 | 14 | 247 | 52 | 283 | 19 | 313 | 36 | 337 | 29 | 357 | 28 |
| 27 | 212 | 27 | 249 | 5 | 284 | 26 | 314 | 30 | 338 | 11 | 358 | 6 |
| 28 | 213 | 39 | 250 | 18 | 285 | 32 | 315 | 23 | 338 | 53 | 358 | 44 |
| 29 | 214 | 52 | 251 | 31 | 286 | 38 | 316 | 16 | 339 | 35 | 359 | 22 |
| 30 | 216 | 5 | 252 | 44 | 287 | 44 | 317 | 8 | 340 | 17 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 19 | 24 | 42 | 10 | 71 | 35 | 106 | 42 | 143 | 36 |
| 1 | 0 | 37 | 20 | 5 | 43 | 10 | 72 | 41 | 107 | 55 | 144 | 50 |
| 2 | 1 | 15 | 20 | 46 | 44 | 2 | 73 | 47 | 109 | 9 | 146 | 3 |
| 3 | 1 | 52 | 21 | 28 | 44 | 55 | 74 | 53 | 110 | 22 | 147 | 17 |
| 4 | 2 | 30 | 22 | 10 | 45 | 48 | 76 | 0 | 111 | 36 | 148 | 30 |
| 5 | 3 | 8 | 22 | 52 | 46 | 42 | 77 | 7 | 112 | 50 | 149 | 43 |
| 6 | 3 | 46 | 23 | 35 | 47 | 36 | 78 | 15 | 114 | 3 | 150 | 57 |
| 7 | 4 | 24 | 24 | 18 | 48 | 30 | 79 | 23 | 115 | 17 | 152 | 10 |
| 8 | 5 | 2 | 25 | 1 | 49 | 25 | 80 | 31 | 116 | 30 | 153 | 23 |
| 9 | 5 | 40 | 25 | 45 | 50 | 20 | 81 | 40 | 117 | 44 | 154 | 36 |
| 10 | 6 | 18 | 26 | 29 | 51 | 16 | 82 | 49 | 118 | 58 | 155 | 49 |
| 11 | 6 | 56 | 27 | 13 | 52 | 12 | 83 | 58 | 120 | 12 | 157 | 2 |
| 12 | 7 | 34 | 27 | 57 | 53 | 9 | 85 | 8 | 121 | 26 | 158 | 15 |
| 13 | 8 | 12 | 28 | 41 | 54 | 7 | 86 | 18 | 122 | 40 | 159 | 28 |
| 14 | 8 | 50 | 29 | 26 | 55 | 5 | 87 | 28 | 123 | 55 | 160 | 41 |
| 15 | 9 | 29 | 30 | 11 | 56 | 4 | 88 | 38 | 125 | 9 | 161 | 53 |
| 16 | 10 | 7 | 30 | 57 | 57 | 3 | 89 | 49 | 126 | 23 | 163 | 6 |
| 17 | 10 | 46 | 31 | 43 | 58 | 2 | 91 | 0 | 127 | 37 | 164 | 19 |
| 18 | 11 | 25 | 32 | 30 | 59 | 2 | 92 | 11 | 128 | 51 | 165 | 31 |
| 19 | 12 | 4 | 33 | 17 | 60 | 2 | 93 | 22 | 130 | 5 | 166 | 44 |
| 20 | 12 | 43 | 34 | 4 | 61 | 3 | 94 | 34 | 131 | 19 | 167 | 56 |
| 21 | 13 | 22 | 34 | 52 | 62 | 4 | 95 | 46 | 132 | 33 | 169 | 9 |
| 22 | 14 | 1 | 35 | 40 | 63 | 6 | 96 | 58 | 133 | 47 | 170 | 21 |
| 23 | 14 | 41 | 36 | 28 | 64 | 8 | 98 | 10 | 135 | 1 | 171 | 34 |
| 24 | 15 | 21 | 37 | 17 | 65 | 10 | 99 | 23 | 136 | 15 | 172 | 46 |
| 25 | 16 | 1 | 38 | 6 | 66 | 13 | 100 | 36 | 137 | 28 | 173 | 58 |
| 26 | 16 | 41 | 38 | 56 | 67 | 16 | 101 | 49 | 138 | 42 | 175 | 11 |
| 27 | 17 | 21 | 39 | 46 | 68 | 20 | 103 | 2 | 139 | 56 | 176 | 23 |
| 28 | 18 | 2 | 40 | 36 | 69 | 24 | 104 | 15 | 141 | 9 | 177 | 36 |
| 29 | 18 | 43 | 41 | 27 | 70 | 29 | 105 | 28 | 142 | 23 | 178 | 48 |
| 30 | 19 | 24 | 42 | 18 | 71 | 35 | 106 | 42 | 143 | 36 | 180 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 216 | 24 | 253 | 18 | 288 | 25 | 317 | 42 | 340 | 36 |
| 1 | 181 | 12 | 217 | 37 | 254 | 32 | 289 | 31 | 318 | 33 | 341 | 17 |
| 2 | 182 | 24 | 218 | 51 | 255 | 45 | 290 | 36 | 319 | 24 | 341 | 58 |
| 3 | 183 | 37 | 220 | 4 | 256 | 58 | 291 | 40 | 320 | 14 | 342 | 39 |
| 4 | 184 | 49 | 221 | 18 | 258 | 11 | 292 | 44 | 321 | 4 | 343 | 19 |
| 5 | 186 | 2 | 222 | 32 | 259 | 24 | 293 | 47 | 321 | 54 | 343 | 59 |
| 6 | 187 | 14 | 223 | 45 | 260 | 37 | 294 | 50 | 322 | 43 | 344 | 39 |
| 7 | 188 | 26 | 224 | 59 | 261 | 50 | 295 | 52 | 323 | 32 | 345 | 19 |
| 8 | 189 | 39 | 226 | 13 | 263 | 2 | 296 | 54 | 324 | 20 | 345 | 59 |
| 9 | 190 | 51 | 227 | 27 | 264 | 14 | 297 | 56 | 325 | 8 | 346 | 38 |
| 10 | 192 | 4 | 228 | 41 | 265 | 26 | 298 | 57 | 325 | 56 | 347 | 17 |
| 11 | 193 | 16 | 229 | 55 | 266 | 38 | 299 | 58 | 326 | 43 | 347 | 56 |
| 12 | 194 | 29 | 231 | 9 | 267 | 49 | 300 | 58 | 327 | 30 | 348 | 35 |
| 13 | 195 | 41 | 232 | 23 | 269 | 0 | 301 | 58 | 328 | 17 | 349 | 14 |
| 14 | 196 | 54 | 233 | 37 | 270 | 11 | 302 | 57 | 329 | 3 | 349 | 53 |
| 15 | 198 | 7 | 234 | 51 | 271 | 22 | 303 | 56 | 329 | 49 | 350 | 31 |
| 16 | 199 | 19 | 236 | 5 | 272 | 32 | 304 | 55 | 330 | 34 | 351 | 10 |
| 17 | 200 | 32 | 237 | 20 | 273 | 42 | 305 | 53 | 331 | 19 | 351 | 48 |
| 18 | 201 | 45 | 238 | 34 | 274 | 52 | 306 | 51 | 332 | 3 | 352 | 26 |
| 19 | 202 | 58 | 239 | 48 | 276 | 2 | 307 | 48 | 332 | 47 | 353 | 4 |
| 20 | 204 | 11 | 241 | 2 | 277 | 11 | 308 | 44 | 333 | 31 | 353 | 42 |
| 21 | 205 | 24 | 242 | 16 | 278 | 20 | 309 | 40 | 334 | 14 | 354 | 20 |
| 22 | 206 | 37 | 243 | 30 | 279 | 29 | 310 | 35 | 334 | 55 | 354 | 58 |
| 23 | 207 | 50 | 244 | 43 | 280 | 37 | 311 | 30 | 335 | 42 | 355 | 36 |
| 24 | 209 | 3 | 245 | 57 | 281 | 45 | 312 | 24 | 336 | 25 | 356 | 14 |
| 25 | 210 | 17 | 247 | 10 | 282 | 53 | 313 | 18 | 337 | 8 | 356 | 52 |
| 26 | 211 | 30 | 248 | 24 | 284 | 0 | 314 | 12 | 337 | 50 | 357 | 30 |
| 27 | 212 | 43 | 249 | 38 | 285 | 7 | 315 | 5 | 338 | 32 | 358 | 8 |
| 28 | 213 | 57 | 250 | 51 | 286 | 13 | 315 | 58 | 339 | 14 | 358 | 45 |
| 29 | 215 | 10 | 252 | 5 | 287 | 19 | 316 | 50 | 339 | 55 | 359 | 23 |
| 30 | 216 | 24 | 253 | 18 | 288 | 25 | 317 | 42 | 340 | 36 | 360 | 0 |

| G | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 19 | 5 | 41 | 42 | 70 | 52 | 106 | 6 | 143 | 17 |
| 1 | | 0 | 37 | 19 | 46 | 42 | 34 | 71 | 58 | 107 | 20 | 144 | 31 |
| 2 | | 1 | 14 | 20 | 27 | 43 | 26 | 73 | 4 | 108 | 34 | 145 | 45 |
| 3 | | 1 | 51 | 21 | 8 | 44 | 18 | 74 | 11 | 109 | 48 | 146 | 59 |
| 4 | | 2 | 28 | 21 | 49 | 45 | 11 | 75 | 18 | 111 | 2 | 148 | 13 |
| 5 | | 3 | 5 | 22 | 30 | 46 | 4 | 76 | 25 | 112 | 16 | 149 | 27 |
| 6 | | 3 | 42 | 23 | 12 | 46 | 58 | 77 | 33 | 113 | 30 | 150 | 41 |
| 7 | | 4 | 19 | 23 | 54 | 47 | 52 | 78 | 41 | 114 | 44 | 151 | 55 |
| 8 | | 4 | 56 | 24 | 37 | 48 | 47 | 79 | 49 | 115 | 59 | 153 | 9 |
| 9 | | 5 | 33 | 25 | 20 | 49 | 42 | 80 | 58 | 117 | 13 | 154 | 23 |
| 10 | | 6 | 11 | 26 | 3 | 50 | 37 | 82 | 7 | 118 | 28 | 155 | 36 |
| 11 | | 6 | 48 | 26 | 46 | 51 | 33 | 83 | 16 | 119 | 42 | 156 | 50 |
| 12 | | 7 | 26 | 27 | 30 | 52 | 30 | 84 | 26 | 120 | 57 | 158 | 3 |
| 13 | | 8 | 3 | 28 | 14 | 53 | 27 | 85 | 36 | 122 | 11 | 159 | 17 |
| 14 | | 8 | 41 | 27 | 58 | 54 | 25 | 66 | 46 | 123 | 26 | 160 | 30 |
| 15 | | 9 | 19 | 29 | 43 | 55 | 23 | 87 | 57 | 124 | 41 | 161 | 43 |
| 16 | | 9 | 57 | 30 | 2 | 56 | 22 | 89 | 8 | 125 | 56 | 162 | 57 |
| 17 | | 10 | 35 | 31 | 14 | 57 | 21 | 90 | 19 | 127 | 10 | 164 | 10 |
| 18 | | 11 | 13 | 32 | 0 | 58 | 21 | 91 | 31 | 128 | 25 | 165 | 23 |
| 19 | | 11 | 51 | 32 | 47 | 59 | 21 | 92 | 43 | 129 | 39 | 166 | 36 |
| 20 | | 12 | 30 | 33 | 34 | 60 | 21 | 93 | 55 | 130 | 53 | 167 | 49 |
| 21 | | 13 | 9 | 34 | 21 | 61 | 22 | 95 | 7 | 132 | 8 | 169 | 3 |
| 22 | | 13 | 48 | 35 | 8 | 62 | 24 | 96 | 19 | 133 | 23 | 170 | 16 |
| 23 | | 14 | 27 | 35 | 55 | 63 | 26 | 97 | 32 | 134 | 37 | 171 | 29 |
| 24 | | 15 | 6 | 36 | 44 | 64 | 28 | 98 | 45 | 135 | 52 | 172 | 42 |
| 25 | | 15 | 45 | 37 | 32 | 65 | 31 | 99 | 58 | 137 | 6 | 173 | 55 |
| 26 | | 16 | 25 | 38 | 21 | 66 | 34 | 101 | 11 | 138 | 21 | 175 | 8 |
| 27 | | 17 | 5 | 39 | 10 | 67 | 38 | 102 | 24 | 139 | 35 | 176 | 21 |
| 28 | | 17 | 45 | 40 | 0 | 68 | 42 | 103 | 38 | 140 | 49 | 177 | 34 |
| 29 | | 18 | 25 | 40 | 51 | 69 | 47 | 104 | 52 | 142 | 3 | 178 | 47 |
| 30 | | 19 | 5 | 41 | 42 | 70 | 52 | 106 | 6 | 143 | 17 | 180 | 0 |

| G | ♎ g. m. | ♏ g. m. | ♐ g. m. | ♑ g. m. | ♒ g. m. | ♓ g. m. |
|---|---|---|---|---|---|---|
| 0 | 180 0 | 216 43 | 253 54 | 289 8 | 318 18 | 340 55 |
| 1 | 181 13 | 217 57 | 255 8 | 290 13 | 319 9 | 341 35 |
| 2 | 182 26 | 219 11 | 256 22 | 291 18 | 320 0 | 342 15 |
| 3 | 183 39 | 220 25 | 257 36 | 292 22 | 320 50 | 342 55 |
| 4 | 184 52 | 221 39 | 258 49 | 293 26 | 321 39 | 343 35 |
| 5 | 186 5 | 222 54 | 260 2 | 294 29 | 322 28 | 344 15 |
| 6 | 187 18 | 224 8 | 261 15 | 295 32 | 323 16 | 344 54 |
| 7 | 188 31 | 225 23 | 262 28 | 296 34 | 324 4 | 345 33 |
| 8 | 189 44 | 226 37 | 263 41 | 297 36 | 324 52 | 346 12 |
| 9 | 190 57 | 227 52 | 264 53 | 298 38 | 325 39 | 346 51 |
| 10 | 192 11 | 229 7 | 266 5 | 299 39 | 326 26 | 347 30 |
| 11 | 193 24 | 230 21 | 267 17 | 300 39 | 327 13 | 348 9 |
| 12 | 194 37 | 231 35 | 268 29 | 301 39 | 328 0 | 348 47 |
| 13 | 195 50 | 232 50 | 269 41 | 302 39 | 328 46 | 349 25 |
| 14 | 197 3 | 234 4 | 270 52 | 303 38 | 329 32 | 350 3 |
| 15 | 198 17 | 235 19 | 272 3 | 304 37 | 330 17 | 350 41 |
| 16 | 199 30 | 236 34 | 273 14 | 305 35 | 331 2 | 351 19 |
| 17 | 200 43 | 237 49 | 274 24 | 306 33 | [illegible] 46 | 351 57 |
| 18 | 201 57 | 239 3 | 275 34 | 307 30 | 33[illegible] 30 | 352 34 |
| 19 | 203 10 | 240 18 | 276 44 | 308 27 | 333 14 | 353 12 |
| 20 | 204 24 | 241 32 | 277 53 | 309 23 | 333 57 | 353 49 |
| 21 | 205 37 | 242 47 | 279 2 | 310 18 | 334 40 | 354 27 |
| 22 | 206 51 | 244 1 | 280 11 | 311 13 | 335 23 | 355 4 |
| 23 | 208 5 | 245 16 | 281 19 | 312 8 | 336 6 | 355 41 |
| 24 | 209 19 | 246 30 | 282 27 | 313 2 | 336 48 | 356 18 |
| 25 | 210 33 | 247 44 | 283 35 | 313 56 | 337 30 | 356 55 |
| 26 | 211 47 | 248 58 | 284 42 | 314 49 | 338 11 | 357 32 |
| 27 | 213 1 | 250 12 | 285 49 | 315 42 | 338 52 | 358 9 |
| 28 | 214 15 | 251 26 | 286 56 | 316 34 | 339 33 | 358 46 |
| 29 | 215 29 | 252 40 | 288 2 | 317 26 | 340 14 | 359 23 |
| 30 | 216 43 | 253 54 | 289 8 | 318 18 | 340 55 | 360 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 18 | 45 | 41 | 6 | 70 | 8 | 105 | 30 | 142 | 57 |
| 1 | 0 | 36 | 19 | 25 | 41 | 57 | 71 | 14 | 106 | 44 | 144 | 12 |
| 2 | 1 | 12 | 20 | 5 | 42 | 48 | 72 | 20 | 107 | 58 | 145 | 27 |
| 3 | 1 | 49 | 20 | 45 | 43 | 40 | 73 | 27 | 109 | 13 | 146 | 41 |
| 4 | 2 | 25 | 21 | 26 | 44 | 32 | 74 | 34 | 110 | 27 | 147 | 56 |
| 5 | 3 | 2 | 22 | 7 | 45 | 25 | 75 | 41 | 111 | 42 | 149 | 10 |
| 6 | 3 | 38 | 22 | 49 | 46 | 18 | 76 | 49 | 112 | 56 | 150 | 25 |
| 7 | 4 | 14 | 23 | 31 | 47 | 12 | 77 | 57 | 114 | 11 | 151 | 40 |
| 8 | 4 | 51 | 24 | 13 | 48 | 6 | 79 | 6 | 115 | 26 | 152 | 54 |
| 9 | 5 | 27 | 24 | 55 | 49 | 1 | 80 | 15 | 116 | 41 | 154 | 9 |
| 10 | 6 | 4 | 25 | 38 | 49 | 57 | 81 | 24 | 117 | 56 | 155 | 23 |
| 11 | 6 | 41 | 26 | 21 | 50 | 53 | 82 | 34 | 119 | 11 | 156 | 37 |
| 12 | 7 | 18 | 27 | 4 | 51 | 49 | 83 | 44 | 120 | 27 | 157 | 51 |
| 13 | 7 | 55 | 27 | 47 | 52 | 46 | 84 | 54 | 121 | 43 | 159 | 5 |
| 14 | 8 | 32 | 28 | 31 | 53 | 43 | 86 | 4 | 122 | 58 | 160 | 19 |
| 15 | 9 | 9 | 29 | 15 | 54 | 41 | 87 | 15 | 124 | 13 | 161 | 33 |
| 16 | 9 | 46 | 30 | 0 | 55 | 39 | 88 | 26 | 125 | 28 | 162 | 47 |
| 17 | 10 | 24 | 30 | 45 | 56 | 38 | 89 | 38 | 126 | 43 | 164 | 1 |
| 18 | 11 | 1 | 31 | 30 | 57 | 37 | 90 | 50 | 127 | 58 | 165 | 15 |
| 19 | 11 | 39 | 32 | 16 | 58 | 37 | 92 | 2 | 129 | 13 | 166 | 29 |
| 20 | 12 | 17 | 33 | 2 | 59 | 38 | 93 | 15 | 130 | 28 | 167 | 42 |
| 21 | 12 | 55 | 33 | 48 | 60 | 39 | 94 | 27 | 131 | 43 | 168 | 56 |
| 22 | 13 | 33 | 34 | 35 | 61 | 40 | 95 | 40 | 132 | 58 | 170 | 10 |
| 23 | 14 | 11 | 35 | 22 | 62 | 42 | 96 | 53 | 134 | 13 | 171 | 24 |
| 24 | 14 | 49 | 36 | 10 | 63 | 44 | 98 | 6 | 135 | 28 | 172 | 38 |
| 25 | 15 | 28 | 36 | 58 | 64 | 47 | 99 | 19 | 136 | 43 | 173 | 52 |
| 26 | 16 | 7 | 37 | 47 | 65 | 50 | 100 | 33 | 137 | 58 | 175 | 6 |
| 27 | 16 | 46 | 38 | 36 | 66 | 54 | 101 | 47 | 139 | 13 | 176 | 20 |
| 28 | 17 | 25 | 39 | 26 | 67 | 58 | 103 | 1 | 140 | 28 | 177 | 33 |
| 29 | 18 | 5 | 40 | 16 | 69 | 3 | 104 | 15 | 141 | 43 | 178 | 47 |
| 30 | 18 | 45 | 41 | 6 | 70 | 8 | 105 | 30 | 142 | 57 | 180 | 0 |

| ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g. | m. | ♒ g. | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 180 | 0 | 217 | 3 | 254 | 30 | 289 | 52 | 318 | 54 | 341 | 15 |
| 181 | 13 | 218 | 17 | 255 | 45 | 290 | 57 | 319 | 44 | 341 | 55 |
| 182 | 27 | 219 | 32 | 256 | 59 | 292 | 2 | 320 | 34 | 342 | 35 |
| 183 | 40 | 220 | 47 | 258 | 13 | 293 | 6 | 321 | 24 | 343 | 14 |
| 184 | 54 | 222 | 2 | 259 | 27 | 294 | 10 | 322 | 13 | 343 | 53 |
| 186 | 8 | 223 | 17 | 260 | 41 | 295 | 13 | 323 | 2 | 344 | 32 |
| 187 | 22 | 224 | 32 | 261 | 54 | 296 | 16 | 323 | 50 | 345 | 11 |
| 188 | 36 | 225 | 47 | 263 | 7 | 297 | 18 | 324 | 38 | 345 | 49 |
| 189 | 50 | 227 | 2 | 264 | 20 | 298 | 20 | 325 | 25 | 346 | 27 |
| 191 | 4 | 228 | 17 | 265 | 33 | 299 | 21 | 326 | 12 | 347 | 5 |
| 192 | 18 | 229 | 32 | 266 | 45 | 300 | 22 | 326 | 58 | 347 | 43 |
| 193 | 31 | 230 | 47 | 267 | 58 | 301 | 23 | 327 | 44 | 348 | 21 |
| 194 | 45 | 232 | 2 | 269 | 10 | 302 | 23 | 328 | 30 | 348 | 59 |
| 195 | 59 | 233 | 17 | 270 | 22 | 303 | 22 | 329 | 15 | 349 | 36 |
| 197 | 13 | 234 | 32 | 271 | 34 | 304 | 21 | 330 | 0 | 350 | 14 |
| 198 | 27 | 235 | 47 | 272 | 45 | 305 | 19 | 330 | 45 | 350 | 51 |
| 199 | 41 | 237 | 2 | 273 | 56 | 306 | 17 | 331 | 29 | 351 | 28 |
| 200 | 55 | 238 | 17 | 275 | 6 | 307 | 14 | 332 | 13 | 352 | 5 |
| 202 | 9 | 239 | 33 | 276 | 16 | 308 | 11 | 332 | 56 | 352 | 42 |
| 203 | 23 | 240 | 49 | 277 | 26 | 309 | 7 | 333 | 39 | 353 | 19 |
| 204 | 37 | 242 | 4 | 278 | 36 | 310 | 3 | 334 | 22 | 353 | 56 |
| 205 | 51 | 243 | 19 | 279 | 45 | 310 | 59 | 335 | 5 | 354 | 33 |
| 207 | 6 | 244 | 34 | 280 | 54 | 311 | 54 | 335 | 47 | 355 | 9 |
| 208 | 20 | 245 | 49 | 282 | 3 | 312 | 48 | 336 | 29 | 355 | 46 |
| 209 | 35 | 247 | 4 | 283 | 11 | 313 | 42 | 337 | 11 | 356 | 22 |
| 210 | 50 | 248 | 18 | 284 | 19 | 314 | 35 | 337 | 53 | 356 | 58 |
| 212 | 4 | 249 | 33 | 285 | 26 | 315 | 28 | 338 | 34 | 357 | 35 |
| 213 | 19 | 250 | 47 | 286 | 33 | 316 | 20 | 339 | 15 | 358 | 11 |
| 214 | 33 | 252 | 2 | 287 | 40 | 317 | 12 | 339 | 55 | 358 | 48 |
| 215 | 48 | 253 | 16 | 288 | 46 | 318 | 3 | 340 | 35 | 359 | 24 |
| 217 | 3 | 254 | 30 | 289 | 52 | 318 | 54 | 341 | 15 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 18 | 25 | 40 | 28 | 69 | 23 | 104 | 52 | 142 | 37 |
| 1 | | 0 | 35 | 19 | 4 | 41 | 19 | 70 | 29 | 106 | 7 | 143 | 53 |
| 2 | | 1 | 11 | 19 | 44 | 42 | 10 | 71 | 35 | 107 | 22 | 145 | 8 |
| 3 | | 1 | 46 | 20 | 24 | 43 | 2 | 72 | 42 | 108 | 37 | 146 | 24 |
| 4 | | 2 | 22 | 21 | 4 | 43 | 54 | 73 | 49 | 109 | 52 | 147 | 39 |
| 5 | | 2 | 58 | 21 | 44 | 44 | 46 | 74 | 56 | 111 | 7 | 148 | 54 |
| 6 | | 3 | 34 | 22 | 25 | 45 | 39 | 76 | 4 | 112 | 22 | 150 | 9 |
| 7 | | 4 | 10 | 23 | 6 | 46 | 32 | 77 | 12 | 113 | 37 | 151 | 24 |
| 8 | | 4 | 46 | 23 | 47 | 47 | 26 | 78 | 21 | 114 | 53 | 152 | 39 |
| 9 | | 5 | 22 | 24 | 29 | 48 | 20 | 79 | 30 | 116 | 8 | 153 | 54 |
| 10 | | 5 | 58 | 25 | 11 | 49 | 15 | 80 | 39 | 117 | 24 | 155 | 9 |
| 11 | | 6 | 34 | 25 | 53 | 50 | 10 | 81 | 49 | 118 | 39 | 156 | 24 |
| 12 | | 7 | 10 | 26 | 36 | 51 | 6 | 82 | 59 | 119 | 55 | 157 | 39 |
| 13 | | 7 | 46 | 27 | 19 | 52 | 3 | 84 | 10 | 121 | 11 | 158 | 54 |
| 14 | | 8 | 22 | 28 | 2 | 53 | 0 | 85 | 21 | 122 | 27 | 160 | 9 |
| 15 | | 8 | 59 | 28 | 45 | 53 | 58 | 86 | 32 | 123 | 43 | 161 | 23 |
| 16 | | 9 | 35 | 29 | 29 | 54 | 56 | 87 | 44 | 124 | 59 | 162 | 38 |
| 17 | | 10 | 12 | 30 | 13 | 55 | 55 | 88 | 56 | 126 | 15 | 163 | 53 |
| 18 | | 10 | 49 | 30 | 58 | 56 | 54 | 90 | 8 | 127 | 30 | 165 | 7 |
| 19 | | 11 | 26 | 31 | 44 | 57 | 53 | 91 | 20 | 128 | 46 | 166 | 22 |
| 20 | | 12 | 3 | 32 | 30 | 58 | 53 | 92 | 33 | 130 | 1 | 167 | 36 |
| 21 | | 12 | 40 | 33 | 16 | 59 | 54 | 93 | 46 | 131 | 17 | 168 | 51 |
| 22 | | 13 | 18 | 34 | 2 | 60 | 55 | 94 | 59 | 132 | 33 | 170 | 5 |
| 23 | | 13 | 56 | 34 | 49 | 61 | 57 | 96 | 12 | 133 | 49 | 171 | 20 |
| 24 | | 14 | 34 | 35 | 36 | 62 | 59 | 97 | 26 | 135 | 5 | 172 | 34 |
| 25 | | 15 | 12 | 36 | 23 | 64 | 2 | 98 | 40 | 136 | 20 | 173 | 48 |
| 26 | | 15 | 50 | 37 | 11 | 65 | 5 | 99 | 54 | 137 | 36 | 175 | 3 |
| 27 | | 16 | 28 | 37 | 59 | 66 | 9 | 101 | 8 | 138 | 51 | 176 | 17 |
| 28 | | 17 | 7 | 38 | 48 | 67 | 13 | 102 | 22 | 140 | 7 | 177 | 32 |
| 29 | | 17 | 46 | 39 | 38 | 68 | 18 | 103 | 37 | 141 | 22 | 178 | 46 |
| 30 | | 18 | 25 | 40 | 28 | 69 | 23 | 104 | 52 | 142 | 37 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 217 | 23 | 255 | 8 | 290 | 37 | 319 | 32 | 341 | 35 |
| 1 | 181 | 14 | 218 | 38 | 256 | 23 | 291 | 42 | 320 | 22 | 342 | 14 |
| 2 | 182 | 28 | 219 | 53 | 257 | 38 | 292 | 47 | 321 | 12 | 342 | 53 |
| 3 | 183 | 43 | 221 | 9 | 258 | 52 | 293 | 51 | 322 | 1 | 343 | 32 |
| 4 | 184 | 57 | 222 | 24 | 260 | 6 | 294 | 55 | 322 | 49 | 344 | 10 |
| 5 | 186 | 12 | 223 | 40 | 261 | 20 | 295 | 58 | 323 | 37 | 344 | 48 |
| 6 | 187 | 26 | 224 | 55 | 262 | 34 | 297 | 1 | 324 | 24 | 345 | 26 |
| 7 | 188 | 40 | 226 | 11 | 263 | 48 | 298 | 3 | 325 | 11 | 346 | 4 |
| 8 | 189 | 55 | 227 | 27 | 265 | 1 | 299 | 5 | 325 | 58 | 346 | 42 |
| 9 | 191 | 9 | 228 | 43 | 266 | 14 | 300 | 6 | 326 | 44 | 347 | 20 |
| 10 | 192 | 24 | 229 | 59 | 267 | 27 | 301 | 7 | 327 | 30 | 347 | 57 |
| 11 | 193 | 38 | 231 | 14 | 268 | 40 | 302 | 7 | 328 | 16 | 348 | 34 |
| 12 | 194 | 53 | 232 | 30 | 269 | 52 | 303 | 6 | 329 | 2 | 349 | 11 |
| 13 | 196 | 7 | 233 | 45 | 271 | 4 | 304 | 5 | 329 | 47 | 349 | 48 |
| 14 | 197 | 22 | 235 | 1 | 272 | 16 | 305 | 4 | 330 | 31 | 350 | 25 |
| 15 | 198 | 37 | 236 | 17 | 273 | 28 | 306 | 2 | 331 | 15 | 351 | 1 |
| 16 | 199 | 51 | 237 | 33 | 274 | 39 | 307 | 0 | 331 | 58 | 351 | 38 |
| 17 | 201 | 6 | 238 | 49 | 275 | 50 | 307 | 57 | 332 | 41 | 352 | 14 |
| 18 | 202 | 21 | 240 | 5 | 277 | 1 | 308 | 54 | 333 | 24 | 352 | 50 |
| 19 | 203 | 36 | 241 | 21 | 278 | 11 | 309 | 50 | 334 | 7 | 353 | 26 |
| 20 | 204 | 51 | 242 | 36 | 279 | 21 | 310 | 45 | 334 | 49 | 354 | 2 |
| 21 | 206 | 6 | 243 | 52 | 280 | 30 | 311 | 40 | 335 | 31 | 354 | 38 |
| 22 | 207 | 21 | 245 | 7 | 281 | 39 | 312 | 34 | 336 | 13 | 355 | 14 |
| 23 | 208 | 36 | 246 | 23 | 282 | 48 | 313 | 28 | 336 | 54 | 355 | 50 |
| 24 | 209 | 51 | 247 | 38 | 283 | 56 | 314 | 21 | 337 | 35 | 356 | 26 |
| 25 | 211 | 6 | 248 | 53 | 285 | 4 | 315 | 14 | 338 | 16 | 357 | 2 |
| 26 | 212 | 21 | 250 | 8 | 286 | 11 | 316 | 6 | 338 | 56 | 357 | 38 |
| 27 | 213 | 36 | 251 | 23 | 287 | 18 | 316 | 58 | 339 | 36 | 358 | 14 |
| 28 | 214 | 52 | 252 | 38 | 288 | 25 | 317 | 50 | 340 | 16 | 358 | 49 |
| 29 | 216 | 7 | 253 | 53 | 289 | 31 | 318 | 41 | 340 | 56 | 359 | 25 |
| 30 | 217 | 23 | 255 | 8 | 290 | 37 | 319 | 32 | 341 | 35 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 18 | 4 | 39 | 49 | 68 | 36 | 104 | 13 | 142 | 16 |
| 1 | | 0 | 35 | 18 | 43 | 40 | 39 | 69 | 41 | 105 | 28 | 143 | 32 |
| 2 | | 1 | 10 | 19 | 22 | 41 | 30 | 70 | 47 | 106 | 44 | 144 | 48 |
| 3 | | 1 | 45 | 20 | 1 | 42 | 21 | 71 | 54 | 107 | 59 | 146 | 4 |
| 4 | | 2 | 20 | 20 | 40 | 43 | 12 | 73 | 1 | 109 | 15 | 147 | 20 |
| 5 | | 2 | 55 | 21 | 20 | 44 | 4 | 74 | 9 | 110 | 31 | 148 | 36 |
| 6 | | 3 | 30 | 22 | 0 | 44 | 56 | 75 | 17 | 111 | 46 | 149 | 52 |
| 7 | | 4 | 5 | 22 | 41 | 45 | 49 | 76 | 25 | 113 | 2 | 151 | 8 |
| 8 | | 4 | 40 | 23 | 22 | 46 | 43 | 77 | 34 | 114 | 18 | 152 | 23 |
| 9 | | 5 | 15 | 24 | 3 | 47 | 37 | 78 | 43 | 115 | 34 | 153 | 39 |
| 10 | | 5 | 51 | 24 | 44 | 48 | 32 | 79 | 53 | 116 | 50 | 154 | 54 |
| 11 | | 6 | 26 | 25 | 26 | 49 | 27 | 81 | 3 | 118 | 6 | 156 | 10 |
| 12 | | 7 | 1 | 26 | 8 | 50 | 23 | 82 | 13 | 119 | 22 | 157 | 26 |
| 13 | | 7 | 37 | 26 | 50 | 51 | 19 | 83 | 24 | 120 | 39 | 158 | 41 |
| 14 | | 8 | 12 | 27 | 32 | 52 | 16 | 84 | 35 | 121 | 55 | 159 | 57 |
| 15 | | 8 | 48 | 28 | 14 | 53 | 13 | 85 | 47 | 123 | 12 | 161 | 12 |
| 16 | | 9 | 24 | 28 | 57 | 54 | 11 | 86 | 59 | 124 | 28 | 162 | 28 |
| 17 | | 10 | 0 | 29 | 41 | 55 | 9 | 88 | 12 | 125 | 45 | 163 | 43 |
| 18 | | 10 | 36 | 30 | 26 | 56 | 8 | 89 | 24 | 127 | 2 | 164 | 59 |
| 19 | | 11 | 12 | 31 | 11 | 57 | 7 | 90 | 37 | 128 | 18 | 166 | 14 |
| 20 | | 11 | 48 | 31 | 56 | 58 | 7 | 91 | 50 | 129 | 34 | 167 | 29 |
| 21 | | 12 | 25 | 32 | 41 | 59 | 7 | 93 | 3 | 130 | 51 | 168 | 45 |
| 22 | | 13 | 2 | 33 | 27 | 60 | 8 | 94 | 17 | 132 | 7 | 170 | 0 |
| 23 | | 13 | 39 | 34 | 13 | 61 | 10 | 95 | 30 | 133 | 24 | 171 | 15 |
| 24 | | 14 | 16 | 35 | 0 | 62 | 12 | 96 | 44 | 134 | 40 | 172 | 30 |
| 25 | | 14 | 54 | 35 | 47 | 63 | 15 | 97 | 58 | 135 | 56 | 173 | 45 |
| 26 | | 15 | 32 | 36 | 34 | 64 | 18 | 99 | 13 | 137 | 12 | 175 | 0 |
| 27 | | 16 | 10 | 37 | 22 | 65 | 22 | 100 | 28 | 138 | 28 | 176 | 15 |
| 28 | | 16 | 48 | 38 | 10 | 66 | 26 | 101 | 43 | 139 | 44 | 177 | 30 |
| 29 | | 17 | 26 | 38 | 59 | 67 | 31 | 102 | 58 | 141 | 0 | 178 | 45 |
| 30 | | 18 | 4 | 39 | 49 | 68 | 36 | 104 | 13 | 142 | 16 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 217 | 44 | 255 | 47 | 291 | 24 | 320 | 11 | 341 | 56 |
| 1 | 181 | 15 | 219 | 0 | 257 | 2 | 292 | 29 | 321 | 1 | 342 | 34 |
| 2 | 182 | 30 | 220 | 16 | 258 | 17 | 293 | 34 | 321 | 50 | 343 | 12 |
| 3 | 183 | 45 | 221 | 32 | 259 | 32 | 294 | 38 | 322 | 38 | 343 | 50 |
| 4 | 185 | 0 | 222 | 48 | 260 | 47 | 295 | 42 | 323 | 26 | 344 | 28 |
| 5 | 186 | 15 | 224 | 4 | 262 | 2 | 296 | 45 | 324 | 13 | 345 | 6 |
| 6 | 187 | 30 | 225 | 20 | 263 | 16 | 297 | 48 | 325 | 0 | 345 | 44 |
| 7 | 188 | 45 | 226 | 36 | 264 | 30 | 298 | 50 | 325 | 47 | 346 | 21 |
| 8 | 190 | 0 | 227 | 53 | 265 | 43 | 299 | 52 | 326 | 33 | 346 | 58 |
| 9 | 191 | 15 | 229 | 9 | 266 | 57 | 300 | 53 | 327 | 19 | 347 | 35 |
| 10 | 192 | 31 | 230 | 26 | 268 | 10 | 301 | 53 | 328 | 4 | 348 | 12 |
| 11 | 193 | 46 | 231 | 42 | 269 | 23 | 302 | 53 | 328 | 49 | 348 | 48 |
| 12 | 195 | 1 | 232 | 58 | 270 | 36 | 303 | 52 | 329 | 34 | 349 | 24 |
| 13 | 196 | 17 | 234 | 15 | 271 | 48 | 304 | 51 | 330 | 19 | 350 | 0 |
| 14 | 197 | 32 | 235 | 32 | 273 | 1 | 305 | 49 | 331 | 3 | 350 | 36 |
| 15 | 198 | 48 | 236 | 48 | 274 | 13 | 306 | 47 | 331 | 46 | 351 | 12 |
| 16 | 200 | 3 | 238 | 5 | 275 | 25 | 307 | 44 | 332 | 28 | 351 | 48 |
| 17 | 201 | 19 | 239 | 21 | 276 | 36 | 308 | 41 | 333 | 10 | 352 | 23 |
| 18 | 202 | 34 | 240 | 38 | 277 | 47 | 309 | 37 | 333 | 52 | 352 | 59 |
| 19 | 203 | 50 | 241 | 54 | 278 | 57 | 310 | 33 | 334 | 34 | 353 | 34 |
| 20 | 205 | 6 | 243 | 10 | 280 | 7 | 311 | 28 | 335 | 16 | 354 | 9 |
| 21 | 206 | 21 | 244 | 26 | 281 | 17 | 312 | 23 | 335 | 57 | 354 | 45 |
| 22 | 207 | 37 | 245 | 42 | 282 | 26 | 313 | 17 | 336 | 38 | 355 | 20 |
| 23 | 208 | 52 | 246 | 58 | 283 | 35 | 314 | 11 | 337 | 19 | 355 | 55 |
| 24 | 210 | 8 | 248 | 14 | 284 | 43 | 315 | 4 | 338 | 0 | 356 | 30 |
| 25 | 211 | 24 | 249 | 29 | 285 | 51 | 315 | 56 | 338 | 40 | 357 | 5 |
| 26 | 212 | 40 | 250 | 45 | 286 | 59 | 316 | 48 | 339 | 20 | 357 | 40 |
| 27 | 213 | 56 | 252 | 1 | 288 | 6 | 317 | 39 | 339 | 59 | 358 | 15 |
| 28 | 215 | 12 | 253 | 16 | 289 | 13 | 318 | 30 | 340 | 38 | 358 | 50 |
| 29 | 216 | 28 | 254 | 32 | 290 | 19 | 319 | 21 | 341 | 17 | 359 | 25 |
| 30 | 217 | 44 | 255 | 47 | 291 | 24 | 320 | 11 | 341 | 56 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 17 | 43 | 39 | 9 | 67 | 47 | 103 | 33 | 141 | 55 |
| 1 | 0 | 34 | 18 | 21 | 39 | 58 | 68 | 53 | 104 | 49 | 143 | 12 |
| 2 | 1 | 8 | 18 | 59 | 40 | 48 | 69 | 59 | 106 | 5 | 144 | 29 |
| 3 | 1 | 42 | 19 | 38 | 41 | 39 | 71 | 6 | 107 | 21 | 145 | 45 |
| 4 | 2 | 16 | 20 | 16 | 42 | 30 | 72 | 13 | 108 | 37 | 147 | 2 |
| 5 | 2 | 51 | 20 | 55 | 43 | 22 | 73 | 21 | 109 | 53 | 148 | 18 |
| 6 | 3 | 25 | 21 | 34 | 44 | 14 | 74 | 29 | 111 | 9 | 149 | 35 |
| 7 | 3 | 59 | 22 | 14 | 45 | 7 | 75 | 38 | 112 | 25 | 150 | 52 |
| 8 | 4 | 34 | 22 | 54 | 46 | 0 | 76 | 47 | 113 | 42 | 152 | 8 |
| 9 | 5 | 8 | 23 | 34 | 46 | 53 | 77 | 56 | 114 | 58 | 153 | 25 |
| 10 | 5 | 43 | 24 | 15 | 47 | 47 | 79 | 6 | 116 | 15 | 154 | 41 |
| 11 | 6 | 18 | 24 | 56 | 48 | 42 | 80 | 17 | 117 | 32 | 155 | 58 |
| 12 | 6 | 53 | 25 | 38 | 49 | 38 | 81 | 28 | 118 | 49 | 157 | 14 |
| 13 | 7 | 28 | 26 | 19 | 50 | 34 | 82 | 39 | 120 | 6 | 158 | 30 |
| 14 | 8 | 3 | 27 | 1 | 51 | 30 | 83 | 49 | 121 | 23 | 159 | 46 |
| 15 | 8 | 38 | 27 | 43 | 52 | 27 | 85 | 1 | 122 | 40 | 161 | 2 |
| 16 | 9 | 13 | 28 | 26 | 53 | 25 | 86 | 13 | 123 | 57 | 162 | 18 |
| 17 | 9 | 48 | 29 | 10 | 54 | 23 | 87 | 26 | 125 | 14 | 163 | 34 |
| 18 | 10 | 24 | 29 | 53 | 55 | 22 | 88 | 39 | 126 | 31 | 164 | 50 |
| 19 | 10 | 59 | 30 | 37 | 56 | 21 | 89 | 52 | 127 | 48 | 166 | 6 |
| 20 | 11 | 35 | 31 | 21 | 57 | 20 | 91 | 5 | 129 | 5 | 167 | 21 |
| 21 | 12 | 11 | 32 | 6 | 58 | 20 | 92 | 19 | 130 | 22 | 168 | 37 |
| 22 | 12 | 47 | 32 | 52 | 59 | 21 | 93 | 33 | 131 | 39 | 169 | 53 |
| 23 | 13 | 23 | 33 | 37 | 60 | 22 | 94 | 47 | 132 | 57 | 171 | 9 |
| 24 | 13 | 59 | 34 | 23 | 61 | 24 | 96 | 1 | 134 | 14 | 172 | 25 |
| 25 | 14 | 36 | 35 | 9 | 62 | 27 | 97 | 16 | 135 | 31 | 173 | 41 |
| 26 | 15 | 13 | 35 | 56 | 63 | 30 | 98 | 31 | 136 | 48 | 174 | 57 |
| 27 | 15 | 50 | 36 | 44 | 64 | 34 | 99 | 46 | 138 | 5 | 176 | 13 |
| 28 | 16 | 28 | 37 | 32 | 65 | 38 | 101 | 2 | 139 | 22 | 177 | 29 |
| 29 | 17 | 5 | 38 | 20 | 66 | 42 | 102 | 17 | 140 | 39 | 178 | 45 |
| 30 | 17 | 43 | 39 | 9 | 67 | 47 | 103 | 33 | 141 | 55 | 180 | 0 |

| G | ♎ |  | ♏ |  | ♐ |  | ♑ |  | ♒ |  | ♓ |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 218 | 5 | 256 | 27 | 292 | 13 | 320 | 51 | 342 | 17 |
| 1 | 181 | 15 | 219 | 21 | 257 | 43 | 293 | 18 | 321 | 40 | 342 | 55 |
| 2 | 182 | 31 | 220 | 38 | 258 | 58 | 294 | 22 | 322 | 28 | 343 | 32 |
| 3 | 183 | 47 | 221 | 55 | 260 | 14 | 295 | 26 | 323 | 16 | 344 | 10 |
| 4 | 185 | 3 | 223 | 12 | 261 | 29 | 296 | 30 | 324 | 4 | 344 | 47 |
| 5 | 186 | 19 | 224 | 29 | 262 | 44 | 297 | 33 | 324 | 51 | 345 | 24 |
| 6 | 187 | 35 | 225 | 46 | 263 | 59 | 298 | 36 | 325 | 37 | 346 | 1 |
| 7 | 188 | 51 | 227 | 3 | 265 | 13 | 299 | 38 | 326 | 23 | 346 | 37 |
| 8 | 190 | 7 | 228 | 21 | 266 | 27 | 300 | 39 | 327 | 8 | 347 | 13 |
| 9 | 191 | 23 | 229 | 38 | 267 | 41 | 301 | 40 | 327 | 54 | 347 | 49 |
| 10 | 192 | 39 | 230 | 55 | 268 | 55 | 302 | 40 | 328 | 39 | 348 | 25 |
| 11 | 193 | 54 | 232 | 12 | 270 | 8 | 303 | 39 | 329 | 23 | 349 | 1 |
| 12 | 195 | 10 | 233 | 29 | 271 | 21 | 304 | 38 | 330 | 7 | 349 | 36 |
| 13 | 196 | 26 | 234 | 46 | 272 | 34 | 305 | 37 | 330 | 50 | 350 | 12 |
| 14 | 197 | 42 | 236 | 3 | 273 | 47 | 306 | 35 | 331 | 34 | 350 | 47 |
| 15 | 198 | 58 | 237 | 20 | 274 | 59 | 307 | 33 | 332 | 17 | 351 | 22 |
| 16 | 200 | 14 | 238 | 37 | 276 | 11 | 308 | 30 | 332 | 59 | 351 | 57 |
| 17 | 201 | 30 | 239 | 54 | 277 | 21 | 309 | 26 | 333 | 41 | 352 | 32 |
| 18 | 202 | 46 | 241 | 11 | 278 | 32 | 310 | 22 | 334 | 22 | 353 | 7 |
| 19 | 204 | 2 | 242 | 28 | 279 | 43 | 311 | 18 | 335 | 4 | 353 | 42 |
| 20 | 205 | 19 | 243 | 45 | 280 | 54 | 312 | 13 | 335 | 45 | 354 | 17 |
| 21 | 206 | 35 | 245 | 2 | 282 | 4 | 313 | 7 | 336 | 26 | 354 | 52 |
| 22 | 207 | 52 | 246 | 18 | 283 | 13 | 314 | 0 | 337 | 6 | 355 | 26 |
| 23 | 209 | 8 | 247 | 35 | 284 | 22 | 314 | 53 | 337 | 46 | 356 | 1 |
| 24 | 210 | 25 | 248 | 51 | 285 | 31 | 315 | 46 | 338 | 26 | 356 | 35 |
| 25 | 211 | 42 | 250 | 7 | 286 | 39 | 316 | 38 | 339 | 5 | 357 | 9 |
| 26 | 212 | 58 | 251 | 23 | 287 | 47 | 317 | 30 | 339 | 44 | 357 | 44 |
| 27 | 214 | 15 | 252 | 39 | 288 | 54 | 318 | 21 | 340 | 22 | 358 | 18 |
| 28 | 215 | 31 | 253 | 55 | 290 | 1 | 319 | 12 | 341 | 1 | 358 | 52 |
| 29 | 216 | 48 | 255 | 11 | 291 | 7 | 320 | 2 | 341 | 39 | 359 | 26 |
| 30 | 218 | 5 | 256 | 27 | 292 | 13 | 320 | 51 | 342 | 17 | 360 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 17 | 21 | 38 | 27 | 66 | 57 | 102 | 51 | 141 | 33 |
| 1 | | 0 | 33 | 17 | 58 | 39 | 16 | 68 | 3 | 104 | 7 | 142 | 51 |
| 2 | | 1 | 6 | 18 | 36 | 40 | 6 | 69 | 9 | 105 | 24 | 144 | 8 |
| 3 | | 1 | 40 | 19 | 13 | 40 | 56 | 70 | 16 | 106 | 40 | 145 | 26 |
| 4 | | 2 | 13 | 19 | 51 | 41 | 46 | 71 | 23 | 107 | 57 | 146 | 43 |
| 5 | | 2 | 47 | 20 | 29 | 42 | 37 | 72 | 31 | 109 | 14 | 148 | 0 |
| 6 | | 3 | 20 | 21 | 8 | 43 | 28 | 73 | 39 | 110 | 31 | 149 | 18 |
| 7 | | 3 | 54 | 21 | 48 | 44 | 20 | 74 | 47 | 111 | 48 | 150 | 35 |
| 8 | | 4 | 28 | 22 | 27 | 45 | 13 | 75 | 56 | 113 | 5 | 151 | 52 |
| 9 | | 5 | 2 | 23 | 6 | 46 | 7 | 77 | 6 | 114 | 22 | 153 | 9 |
| 10 | | 5 | 36 | 23 | 46 | 47 | 1 | 78 | 16 | 115 | 40 | 154 | 26 |
| 11 | | 6 | 10 | 24 | 26 | 47 | 56 | 79 | 27 | 116 | 57 | 155 | 43 |
| 12 | | 6 | 44 | 25 | 7 | 48 | 51 | 80 | 38 | 118 | 15 | 157 | 0 |
| 13 | | 7 | 18 | 25 | 48 | 49 | 47 | 81 | 50 | 119 | 32 | 158 | 17 |
| 14 | | 7 | 52 | 26 | 29 | 50 | 43 | 83 | 1 | 120 | 50 | 159 | 34 |
| 15 | | 8 | 26 | 27 | 10 | 51 | 39 | 84 | 13 | 122 | 8 | 160 | 50 |
| 16 | | 9 | 0 | 27 | 52 | 52 | 36 | 85 | 26 | 123 | 25 | 162 | 7 |
| 17 | | 9 | 35 | 28 | 35 | 53 | 44 | 86 | 29 | 124 | 43 | 163 | 24 |
| 18 | | 10 | 10 | 29 | 18 | 54 | 32 | 87 | 52 | 126 | 0 | 164 | 41 |
| 19 | | 10 | 45 | 30 | 2 | 55 | 31 | 89 | 5 | 127 | 18 | 165 | 58 |
| 20 | | 11 | 20 | 30 | 46 | 56 | 30 | 90 | 19 | 128 | 36 | 167 | 14 |
| 21 | | 11 | 55 | 31 | 30 | 57 | 30 | 91 | 32 | 129 | 54 | 168 | 31 |
| 22 | | 12 | 31 | 32 | 15 | 58 | 31 | 92 | 47 | 131 | 12 | 169 | 48 |
| 23 | | 13 | 6 | 33 | 0 | 59 | 32 | 94 | 2 | 132 | 30 | 171 | 4 |
| 24 | | 13 | 42 | 33 | 45 | 60 | 34 | 95 | 16 | 133 | 48 | 172 | 21 |
| 25 | | 14 | 18 | 34 | 30 | 61 | 37 | 96 | 31 | 135 | 5 | 173 | 37 |
| 26 | | 14 | 54 | 35 | 16 | 62 | 40 | 97 | 47 | 136 | 23 | 174 | 54 |
| 27 | | 15 | 31 | 36 | 3 | 63 | 44 | 99 | 3 | 137 | 41 | 176 | 11 |
| 28 | | 16 | 7 | 36 | 50 | 64 | 48 | 100 | 19 | 138 | 58 | 177 | 27 |
| 29 | | 16 | 44 | 37 | 38 | 65 | 52 | 101 | 35 | 140 | 16 | 178 | 44 |
| 30 | | 17 | 21 | 38 | 27 | 66 | 57 | 102 | 51 | 141 | 33 | 180 | 0 |

| G | ♎ g. | ♎ m. | ♏ g. | ♏ m. | ♐ g. | ♐ m. | ♑ g. | ♑ m. | ♒ g. | ♒ m. | ♓ g. | ♓ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 218 | 27 | 257 | 9 | 293 | 3 | 321 | 33 | 342 | 39 |
| 1 | 181 | 16 | 219 | 44 | 258 | 25 | 294 | 8 | 322 | 22 | 343 | 16 |
| 2 | 182 | 33 | 221 | 2 | 259 | 41 | 295 | 12 | 323 | 10 | 343 | 53 |
| 3 | 183 | 49 | 222 | 19 | 260 | 57 | 296 | 16 | 323 | 57 | 344 | 29 |
| 4 | 185 | 6 | 223 | 37 | 262 | 13 | 297 | 20 | 324 | 44 | 345 | 6 |
| 5 | 186 | 23 | 224 | 55 | 263 | 29 | 298 | 23 | 325 | 30 | 345 | 42 |
| 6 | 187 | 39 | 226 | 12 | 264 | 44 | 299 | 26 | 326 | 15 | 346 | 18 |
| 7 | 188 | 56 | 227 | 30 | 265 | 58 | 300 | 28 | 327 | 0 | 346 | 54 |
| 8 | 190 | 12 | 228 | 48 | 267 | 13 | 301 | 29 | 327 | 45 | 347 | 29 |
| 9 | 191 | 29 | 230 | 6 | 268 | 27 | 302 | 30 | 328 | 30 | 348 | 5 |
| 10 | 192 | 46 | 231 | 24 | 269 | 41 | 303 | 30 | 329 | 14 | 348 | 40 |
| 11 | 194 | 2 | 232 | 42 | 270 | 55 | 304 | 29 | 329 | 58 | 349 | 15 |
| 12 | 195 | 19 | 234 | 0 | 272 | 8 | 305 | 28 | 330 | 42 | 349 | 50 |
| 13 | 196 | 36 | 235 | 17 | 273 | 21 | 306 | 26 | 331 | 25 | 350 | 25 |
| 14 | 197 | 53 | 236 | 35 | 274 | 34 | 307 | 24 | 332 | 8 | 351 | 0 |
| 15 | 199 | 10 | 237 | 52 | 275 | 47 | 308 | 21 | 332 | 50 | 351 | 34 |
| 16 | 200 | 26 | 239 | 10 | 276 | 59 | 309 | 17 | 333 | 31 | 352 | 8 |
| 17 | 201 | 43 | 240 | 28 | 278 | 10 | 310 | 13 | 334 | 12 | 352 | 32 |
| 18 | 203 | 0 | 241 | 45 | 279 | 22 | 311 | 9 | 334 | 53 | 353 | 16 |
| 19 | 204 | 17 | 243 | 3 | 280 | 33 | 312 | 4 | 335 | 34 | 353 | 50 |
| 20 | 205 | 34 | 244 | 20 | 281 | 44 | 312 | 59 | 336 | 14 | 354 | 24 |
| 21 | 206 | 51 | 245 | 38 | 282 | 54 | 313 | 53 | 336 | 54 | 354 | 58 |
| 22 | 208 | 8 | 246 | 55 | 284 | 4 | 314 | 47 | 337 | 33 | 355 | 32 |
| 23 | 209 | 25 | 248 | 12 | 285 | 13 | 315 | 40 | 338 | 12 | 356 | 6 |
| 24 | 210 | 42 | 249 | 29 | 286 | 21 | 316 | 32 | 338 | 52 | 356 | 40 |
| 25 | 212 | 0 | 250 | 46 | 287 | 29 | 317 | 23 | 339 | 31 | 357 | 13 |
| 26 | 213 | 17 | 252 | 3 | 288 | 37 | 318 | 14 | 340 | 9 | 357 | 47 |
| 27 | 214 | 34 | 253 | 20 | 289 | 44 | 319 | 4 | 340 | 47 | 358 | 20 |
| 28 | 215 | 52 | 254 | 36 | 290 | 51 | 319 | 54 | 341 | 24 | 358 | 54 |
| 29 | 217 | 9 | 255 | 53 | 291 | 57 | 320 | 44 | 342 | 2 | 359 | 27 |
| 30 | 218 | 27 | 257 | 9 | 293 | 3 | 321 | 33 | 342 | 39 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 16 | 58 | 37 | 44 | 66 | 5 | 102 | 8 | 141 | 10 |
| 1 | 0 | 32 | 17 | 35 | 38 | 33 | 67 | 11 | 103 | 25 | 142 | 29 |
| 2 | 1 | 5 | 18 | 12 | 39 | 22 | 68 | 17 | 104 | 42 | 143 | 47 |
| 3 | 1 | 38 | 18 | 49 | 40 | 12 | 69 | 24 | 105 | 59 | 145 | 5 |
| 4 | 2 | 11 | 19 | 26 | 41 | 2 | 70 | 31 | 107 | 16 | 146 | 23 |
| 5 | 2 | 44 | 20 | 3 | 41 | 52 | 71 | 39 | 108 | 34 | 147 | 41 |
| 6 | 3 | 16 | 20 | 41 | 42 | 43 | 72 | 47 | 109 | 51 | 148 | 59 |
| 7 | 3 | 49 | 21 | 20 | 43 | 35 | 73 | 55 | 111 | 9 | 150 | 17 |
| 8 | 4 | 22 | 21 | 58 | 44 | 27 | 75 | 4 | 112 | 27 | 151 | 35 |
| 9 | 4 | 55 | 22 | 37 | 45 | 20 | 76 | 14 | 113 | 45 | 152 | 53 |
| 10 | 5 | 28 | 23 | 16 | 46 | 13 | 77 | 25 | 115 | 3 | 154 | 10 |
| 11 | 6 | 1 | 23 | 56 | 47 | 7 | 78 | 36 | 116 | 21 | 155 | 28 |
| 12 | 6 | 34 | 24 | 36 | 48 | 2 | 79 | 48 | 117 | 39 | 156 | 46 |
| 13 | 7 | 8 | 25 | 16 | 48 | 57 | 80 | 59 | 118 | 58 | 158 | 4 |
| 14 | 7 | 41 | 25 | 56 | 49 | 53 | 82 | 11 | 120 | 16 | 159 | 22 |
| 15 | 8 | 15 | 26 | 37 | 50 | 49 | 83 | 23 | 121 | 35 | 160 | 39 |
| 16 | 8 | 48 | 27 | 19 | 51 | 46 | 84 | 36 | 122 | 53 | 161 | 56 |
| 17 | 9 | 22 | 28 | 1 | 52 | 44 | 85 | 50 | 124 | 11 | 163 | 13 |
| 18 | 9 | 56 | 28 | 44 | 53 | 42 | 87 | 4 | 125 | 29 | 164 | 31 |
| 19 | 10 | 30 | 29 | 26 | 54 | 40 | 88 | 17 | 126 | 47 | 165 | 48 |
| 20 | 11 | 4 | 30 | 9 | 55 | 39 | 89 | 31 | 128 | 6 | 167 | 6 |
| 21 | 11 | 39 | 30 | 53 | 56 | 39 | 90 | 46 | 129 | 25 | 168 | 23 |
| 22 | 12 | 14 | 31 | 37 | 57 | 40 | 92 | 1 | 130 | 43 | 169 | 41 |
| 23 | 12 | 49 | 32 | 21 | 58 | 41 | 93 | 16 | 132 | 2 | 170 | 58 |
| 24 | 13 | 24 | 33 | 5 | 59 | 43 | 94 | 31 | 133 | 21 | 172 | 16 |
| 25 | 13 | 59 | 33 | 50 | 60 | 45 | 95 | 46 | 134 | 39 | 173 | 34 |
| 26 | 14 | 34 | 34 | 35 | 61 | 48 | 97 | 2 | 135 | 58 | 174 | 51 |
| 27 | 15 | 10 | 35 | 21 | 62 | 51 | 98 | 18 | 137 | 16 | 176 | 8 |
| 28 | 15 | 46 | 36 | 8 | 63 | 55 | 99 | 35 | 138 | 34 | 177 | 25 |
| 29 | 16 | 22 | 36 | 56 | 65 | 0 | 100 | 51 | 139 | 52 | 178 | 42 |
| 30 | 16 | 58 | 37 | 44 | 66 | 5 | 102 | 8 | 141 | 10 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 218 | 50 | 257 | 52 | 293 | 55 | 322 | 16 | 343 | 2 |
| 1 | 181 | 18 | 220 | 8 | 259 | 9 | 295 | 0 | 323 | 4 | 343 | 38 |
| 2 | 182 | 35 | 221 | 26 | 260 | 25 | 296 | 5 | 323 | 52 | 344 | 14 |
| 3 | 183 | 52 | 222 | 44 | 261 | 42 | 297 | 9 | 324 | 39 | 344 | 50 |
| 4 | 185 | 9 | 224 | 2 | 262 | 58 | 298 | 12 | 325 | 25 | 345 | 26 |
| 5 | 186 | 26 | 225 | 21 | 264 | 14 | 299 | 15 | 326 | 10 | 346 | 1 |
| 6 | 187 | 44 | 226 | 39 | 265 | 29 | 300 | 17 | 326 | 55 | 346 | 36 |
| 7 | 189 | 2 | 227 | 58 | 266 | 44 | 301 | 19 | 327 | 39 | 347 | 11 |
| 8 | 190 | 19 | 229 | 17 | 267 | 59 | 302 | 20 | 328 | 23 | 347 | 46 |
| 9 | 191 | 37 | 230 | 35 | 269 | 14 | 303 | 21 | 329 | 7 | 348 | 21 |
| 10 | 192 | 54 | 231 | 54 | 270 | 29 | 304 | 21 | 329 | 51 | 348 | 56 |
| 11 | 194 | 12 | 233 | 13 | 271 | 43 | 305 | 20 | 330 | 34 | 349 | 30 |
| 12 | 195 | 29 | 234 | 31 | 272 | 56 | 306 | 18 | 331 | 16 | 350 | 4 |
| 13 | 196 | 47 | 235 | 49 | 274 | 10 | 307 | 16 | 331 | 59 | 350 | 38 |
| 14 | 198 | 4 | 237 | 7 | 275 | 24 | 308 | 14 | 332 | 41 | 351 | 12 |
| 15 | 199 | 21 | 238 | 25 | 276 | 37 | 309 | 11 | 333 | 23 | 351 | 45 |
| 16 | 200 | 38 | 239 | 44 | 277 | 49 | 310 | 7 | 334 | 4 | 352 | 19 |
| 17 | 201 | 56 | 241 | 2 | 279 | 1 | 311 | 3 | 334 | 44 | 352 | 52 |
| 18 | 203 | 14 | 242 | 21 | 280 | 12 | 311 | 58 | 335 | 24 | 353 | 26 |
| 19 | 204 | 32 | 243 | 39 | 281 | 24 | 312 | 53 | 336 | 4 | 353 | 59 |
| 20 | 205 | 50 | 244 | 57 | 282 | 35 | 313 | 47 | 336 | 41 | 354 | 32 |
| 21 | 207 | 7 | 246 | 15 | 283 | 46 | 314 | 40 | 337 | 23 | 355 | 5 |
| 22 | 208 | 25 | 247 | 33 | 284 | 56 | 315 | 33 | 338 | 2 | 355 | 38 |
| 23 | 209 | 43 | 248 | 51 | 286 | 5 | 316 | 25 | 338 | 40 | 356 | 11 |
| 24 | 211 | 1 | 250 | 9 | 287 | 13 | 317 | 17 | 339 | 19 | 356 | 44 |
| 25 | 212 | 19 | 251 | 26 | 288 | 21 | 318 | 8 | 339 | 57 | 357 | 16 |
| 26 | 213 | 37 | 252 | 44 | 289 | 29 | 318 | 58 | 340 | 34 | 357 | 49 |
| 27 | 214 | 55 | 254 | 1 | 290 | 36 | 319 | 48 | 341 | 11 | 358 | 22 |
| 28 | 216 | 13 | 255 | 18 | 291 | 43 | 320 | 38 | 341 | 48 | 358 | 55 |
| 29 | 217 | 31 | 256 | 35 | 292 | 49 | 321 | 27 | 342 | 25 | 359 | 28 |
| 30 | 218 | 50 | 257 | 52 | 293 | 55 | 322 | 16 | 343 | 2 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 16 | 34 | 36 | 59 | 65 | 10 | 101 | 23 | 140 | 46 |
| 1 | 0 | 32 | 17 | 10 | 37 | 47 | 66 | 15 | 102 | 40 | 142 | 5 |
| 2 | 1 | 4 | 17 | 46 | 38 | 36 | 67 | 21 | 103 | 58 | 143 | 24 |
| 3 | 1 | 36 | 18 | 22 | 39 | 25 | 68 | 28 | 105 | 16 | 144 | 43 |
| 4 | 2 | 8 | 18 | 58 | 40 | 14 | 69 | 36 | 106 | 34 | 146 | 2 |
| 5 | 2 | 40 | 19 | 35 | 41 | 4 | 70 | 44 | 107 | 52 | 147 | 21 |
| 6 | 3 | 12 | 20 | 12 | 41 | 55 | 71 | 53 | 109 | 10 | 148 | 40 |
| 7 | 3 | 44 | 20 | 50 | 42 | 46 | 73 | 2 | 110 | 28 | 149 | 59 |
| 8 | 4 | 16 | 21 | 28 | 43 | 38 | 74 | 12 | 111 | 47 | 151 | 18 |
| 9 | 4 | 48 | 22 | 6 | 44 | 30 | 75 | 22 | 113 | 5 | 152 | 37 |
| 10 | 5 | 20 | 22 | 45 | 45 | 23 | 76 | 32 | 114 | 24 | 153 | 55 |
| 11 | 5 | 52 | 23 | 24 | 46 | 17 | 77 | 43 | 115 | 43 | 155 | 14 |
| 12 | 6 | 25 | 24 | 3 | 47 | 11 | 78 | 54 | 117 | 2 | 156 | 32 |
| 13 | 6 | 57 | 24 | 43 | 48 | 6 | 80 | 6 | 118 | 21 | 157 | 51 |
| 14 | 7 | 30 | 25 | 22 | 49 | 1 | 81 | 18 | 119 | 41 | 159 | 9 |
| 15 | 8 | 3 | 26 | 2 | 49 | 57 | 82 | 31 | 121 | 0 | 160 | 27 |
| 16 | 8 | 36 | 26 | 43 | 50 | 53 | 83 | 44 | 122 | 19 | 161 | 46 |
| 17 | 9 | 9 | 27 | 25 | 51 | 50 | 84 | 58 | 123 | 38 | 163 | 4 |
| 18 | 9 | 42 | 28 | 6 | 52 | 48 | 86 | 12 | 124 | 57 | 164 | 22 |
| 19 | 10 | 15 | 28 | 48 | 53 | 47 | 87 | 26 | 126 | 16 | 165 | 40 |
| 20 | 10 | 49 | 29 | 30 | 54 | 46 | 88 | 41 | 127 | 35 | 166 | 58 |
| 21 | 11 | 23 | 30 | 13 | 55 | 45 | 89 | 56 | 128 | 54 | 168 | 17 |
| 22 | 11 | 57 | 30 | 57 | 56 | 45 | 91 | 11 | 130 | 13 | 169 | 35 |
| 23 | 12 | 31 | 31 | 40 | 57 | 46 | 92 | 27 | 131 | 33 | 170 | 54 |
| 24 | 13 | 5 | 32 | 24 | 58 | 48 | 93 | 42 | 132 | 52 | 172 | 12 |
| 25 | 13 | 39 | 33 | 8 | 59 | 50 | 94 | 58 | 134 | 11 | 173 | 30 |
| 26 | 14 | 14 | 33 | 53 | 60 | 53 | 96 | 15 | 135 | 30 | 174 | 48 |
| 27 | 14 | 49 | 34 | 39 | 61 | 57 | 97 | 32 | 136 | 49 | 176 | 6 |
| 28 | 15 | 24 | 35 | 25 | 63 | 1 | 98 | 49 | 138 | 8 | 177 | 24 |
| 29 | 15 | 59 | 36 | 12 | 64 | 5 | 100 | 6 | 139 | 27 | 178 | 42 |
| 30 | 16 | 34 | 36 | 59 | 65 | 10 | 101 | 23 | 140 | 46 | 180 | 0 |

| G | ♎ g. m. | ♏ g. m. | ♐ g. m. | ♑ g. m. | ♒ g. m. | ♓ g. m. |
|---|---|---|---|---|---|---|
| 0 | 180 0 | 219 14 | 258 37 | 294 50 | 323 1 | 343 26 |
| 1 | 181 18 | 220 33 | 259 54 | 295 55 | 323 48 | 344 1 |
| 2 | 182 36 | 221 52 | 261 11 | 296 59 | 324 35 | 344 36 |
| 3 | 183 54 | 223 11 | 262 28 | 298 3 | 325 21 | 345 11 |
| 4 | 185 12 | 224 30 | 263 45 | 299 7 | 326 7 | 345 46 |
| 5 | 186 30 | 225 49 | 265 2 | 300 10 | 326 52 | 346 21 |
| 6 | 187 48 | 227 8 | 266 18 | 301 12 | 327 36 | 346 55 |
| 7 | 189 6 | 228 27 | 267 33 | 302 14 | 328 20 | 347 29 |
| 8 | 190 25 | 229 47 | 268 49 | 303 15 | 329 3 | 348 3 |
| 9 | 191 43 | 231 6 | 270 4 | 304 15 | 329 47 | 348 37 |
| 10 | 193 2 | 232 25 | 271 19 | 305 14 | 330 30 | 349 11 |
| 11 | 194 20 | 233 44 | 272 34 | 306 13 | 331 12 | 349 45 |
| 12 | 195 38 | 235 3 | 273 48 | 307 12 | 331 54 | 350 18 |
| 13 | 196 56 | 236 22 | 275 2 | 308 10 | 332 35 | 350 51 |
| 14 | 198 14 | 237 41 | 276 16 | 309 7 | 333 17 | 351 24 |
| 15 | 199 33 | 239 0 | 277 29 | 310 3 | 333 56 | 351 57 |
| 16 | 200 51 | 240 19 | 278 42 | 310 59 | 334 38 | 352 30 |
| 17 | 202 9 | 241 39 | 279 54 | 311 54 | 335 17 | 353 3 |
| 18 | 203 28 | 242 58 | 281 6 | 312 49 | 335 57 | 353 35 |
| 19 | 204 46 | 244 17 | 282 17 | 313 43 | 336 36 | 354 8 |
| 20 | 206 5 | 245 36 | 283 28 | 314 37 | 337 15 | 354 40 |
| 21 | 207 23 | 246 55 | 284 38 | 315 30 | 337 54 | 355 12 |
| 22 | 208 42 | 248 13 | 285 48 | 316 22 | 338 32 | 355 44 |
| 23 | 210 1 | 249 32 | 286 58 | 317 14 | 339 10 | 356 16 |
| 24 | 211 20 | 250 50 | 288 7 | 318 5 | 339 48 | 356 48 |
| 25 | 212 39 | 252 8 | 289 16 | 318 56 | 340 25 | 357 20 |
| 26 | 213 58 | 253 26 | 290 24 | 319 46 | 341 2 | 357 52 |
| 27 | 215 17 | 254 44 | 291 32 | 320 35 | 341 38 | 358 24 |
| 28 | 216 36 | 256 2 | 292 39 | 321 24 | 342 14 | 358 56 |
| 29 | 217 55 | 257 20 | 293 45 | 322 13 | 342 50 | 359 28 |
| 30 | 219 14 | 258 37 | 294 50 | 323 1 | 343 26 | 360 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 16 | 10 | 36 | 13 | 64 | 14 | 100 | 37 | 140 | 22 |
| 1 | | 0 | 31 | 16 | 45 | 37 | 0 | 65 | 20 | 101 | 55 | 141 | 42 |
| 2 | | 1 | 2 | 17 | 20 | 37 | 48 | 66 | 26 | 103 | 13 | 143 | 2 |
| 3 | | 1 | 33 | 17 | 56 | 38 | 36 | 67 | 33 | 104 | 32 | 144 | 21 |
| 4 | | 2 | 4 | 18 | 31 | 39 | 25 | 68 | 40 | 105 | 50 | 145 | 41 |
| 5 | | 2 | 35 | 19 | 7 | 40 | 15 | 69 | 48 | 107 | 9 | 147 | 0 |
| 6 | | 3 | 6 | 19 | 43 | 41 | 5 | 70 | 56 | 108 | 28 | 148 | 20 |
| 7 | | 3 | 37 | 20 | 20 | 41 | 56 | 72 | 5 | 109 | 47 | 149 | 40 |
| 8 | | 4 | 9 | 20 | 57 | 42 | 47 | 73 | 15 | 111 | 6 | 150 | 59 |
| 9 | | 4 | 40 | 21 | 34 | 43 | 39 | 74 | 25 | 112 | 25 | 152 | 19 |
| 10 | | 5 | 12 | 22 | 12 | 44 | 31 | 75 | 36 | 113 | 44 | 153 | 38 |
| 11 | | 5 | 43 | 22 | 50 | 45 | 24 | 76 | 48 | 115 | 3 | 154 | 58 |
| 12 | | 6 | 15 | 23 | 29 | 46 | 18 | 78 | 0 | 116 | 23 | 156 | 17 |
| 13 | | 6 | 47 | 24 | 8 | 47 | 12 | 79 | 12 | 117 | 42 | 157 | 37 |
| 14 | | 7 | 19 | 24 | 47 | 48 | 7 | 80 | 24 | 119 | 2 | 158 | 56 |
| 15 | | 7 | 51 | 25 | 26 | 49 | 3 | 81 | 37 | 120 | 22 | 160 | 15 |
| 16 | | 8 | 23 | 26 | 6 | 49 | 59 | 82 | 51 | 121 | 42 | 161 | 34 |
| 17 | | 8 | 55 | 26 | 47 | 50 | 56 | 84 | 5 | 123 | 2 | 162 | 53 |
| 18 | | 9 | 27 | 27 | 28 | 51 | 53 | 85 | 20 | 124 | 22 | 164 | 12 |
| 19 | | 9 | 59 | 28 | 9 | 52 | 51 | 86 | 34 | 125 | 42 | 165 | 31 |
| 20 | | 10 | 32 | 28 | 50 | 53 | 50 | 87 | 49 | 127 | 2 | 166 | 50 |
| 21 | | 11 | 5 | 29 | 32 | 54 | 49 | 89 | 4 | 128 | 22 | 168 | 9 |
| 22 | | 11 | 38 | 30 | 15 | 55 | 49 | 90 | 20 | 129 | 42 | 169 | 28 |
| 23 | | 12 | 11 | 30 | 58 | 56 | 50 | 91 | 36 | 131 | 3 | 170 | 47 |
| 24 | | 12 | 44 | 31 | 41 | 57 | 52 | 92 | 52 | 132 | 23 | 172 | 6 |
| 25 | | 13 | 18 | 32 | 25 | 58 | 54 | 94 | 9 | 133 | 43 | 173 | 25 |
| 26 | | 13 | 52 | 33 | 10 | 59 | 57 | 95 | 26 | 135 | 3 | 174 | 44 |
| 27 | | 14 | 26 | 33 | 56 | 61 | 0 | 96 | 44 | 136 | 23 | 176 | 3 |
| 28 | | 15 | 1 | 34 | 41 | 62 | 4 | 98 | 1 | 137 | 43 | 177 | 22 |
| 29 | | 15 | 35 | 35 | 27 | 63 | 9 | 99 | 19 | 139 | 3 | 178 | 41 |
| 30 | | 16 | 10 | 36 | 13 | 64 | 14 | 100 | 37 | 140 | 22 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 219 | 38 | 259 | 23 | 295 | 46 | 323 | 47 | 343 | 50 |
| 1 | 181 | 19 | 220 | 57 | 260 | 41 | 296 | 51 | 324 | 33 | 344 | 25 |
| 2 | 182 | 38 | 222 | 17 | 261 | 59 | 297 | 56 | 325 | 19 | 344 | 59 |
| 3 | 183 | 57 | 223 | 37 | 263 | 16 | 299 | 0 | 326 | 4 | 345 | 34 |
| 4 | 185 | 16 | 224 | 57 | 264 | 34 | 300 | 3 | 326 | 50 | 346 | 8 |
| 5 | 186 | 35 | 226 | 17 | 265 | 51 | 301 | 6 | 327 | 35 | 346 | 42 |
| 6 | 187 | 54 | 227 | 37 | 267 | 8 | 302 | 8 | 328 | 19 | 347 | 16 |
| 7 | 189 | 13 | 228 | 57 | 268 | 24 | 303 | 10 | 329 | 2 | 347 | 49 |
| 8 | 290 | 32 | 230 | 18 | 269 | 40 | 304 | 11 | 329 | 45 | 348 | 22 |
| 9 | 191 | 51 | 231 | 38 | 270 | 56 | 305 | 11 | 330 | 28 | 348 | 55 |
| 10 | 193 | 10 | 232 | 58 | 272 | 11 | 306 | 10 | 331 | 10 | 349 | 28 |
| 11 | 194 | 29 | 234 | 18 | 273 | 26 | 307 | 9 | 331 | 51 | 350 | 1 |
| 12 | 195 | 48 | 235 | 38 | 274 | 40 | 308 | 7 | 332 | 32 | 350 | 33 |
| 13 | 197 | 37 | 236 | 58 | 275 | 55 | 309 | 4 | 333 | 13 | 351 | 5 |
| 14 | 198 | 26 | 238 | 18 | 277 | 9 | 310 | 1 | 333 | 54 | 351 | 37 |
| 15 | 199 | 45 | 239 | 38 | 278 | 23 | 310 | 57 | 334 | 34 | 352 | 9 |
| 16 | 201 | 4 | 240 | 58 | 279 | 36 | 311 | 53 | 335 | 13 | 352 | 41 |
| 17 | 202 | 23 | 242 | 18 | 280 | 43 | 312 | 48 | 335 | 52 | 353 | 13 |
| 18 | 203 | 43 | 243 | 37 | 282 | 0 | 313 | 42 | 336 | 31 | 353 | 45 |
| 19 | 205 | 32 | 244 | 57 | 283 | 12 | 314 | 36 | 337 | 10 | 354 | 17 |
| 20 | 206 | 22 | 246 | 16 | 284 | 24 | 315 | 29 | 337 | 48 | 354 | 48 |
| 21 | 207 | 41 | 247 | 35 | 285 | 35 | 316 | 21 | 338 | 26 | 355 | 20 |
| 22 | 209 | 1 | 248 | 54 | 286 | 45 | 317 | 13 | 339 | 3 | 355 | 51 |
| 23 | 210 | 20 | 250 | 13 | 287 | 55 | 318 | 4 | 339 | 40 | 356 | 23 |
| 24 | 211 | 40 | 251 | 32 | 289 | 4 | 318 | 55 | 340 | 17 | 356 | 54 |
| 25 | 213 | 0 | 252 | 51 | 290 | 12 | 319 | 45 | 340 | 53 | 357 | 25 |
| 26 | 214 | 19 | 254 | 10 | 291 | 20 | 320 | 35 | 341 | 29 | 357 | 56 |
| 27 | 215 | 39 | 255 | 28 | 292 | 27 | 321 | 24 | 342 | 4 | 358 | 27 |
| 28 | 216 | 58 | 256 | 47 | 293 | 34 | 322 | 12 | 342 | 40 | 358 | 58 |
| 29 | 218 | 18 | 258 | 5 | 294 | 40 | 323 | 0 | 343 | 15 | 359 | 29 |
| 30 | 219 | 38 | 259 | 23 | 295 | 46 | 323 | 47 | 343 | 50 | 360 | 0 |

| | | ♈ | ♉ | ♊ | ♋ | ♌ | ♍ |
|---|---|---|---|---|---|---|---|
| G | | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. |
| 0 | | 0 0 | 15 44 | 35 24 | 63 14 | 99 48 | 139 56 |
| 1 | | 0 30 | 16 18 | 36 11 | 64 20 | 101 7 | 141 17 |
| 2 | | 1 0 | 16 53 | 36 58 | 65 27 | 102 26 | 142 38 |
| 3 | | 1 30 | 17 27 | 37 46 | 66 34 | 103 45 | 143 58 |
| 4 | | 2 0 | 18 2 | 38 34 | 67 41 | 105 4 | 145 19 |
| 5 | | 2 31 | 18 37 | 39 23 | 68 49 | 106 24 | 146 39 |
| 6 | | 3 1 | 19 13 | 40 12 | 69 58 | 107 43 | 148 0 |
| 7 | | 3 32 | 19 49 | 41 2 | 71 8 | 109 3 | 149 20 |
| 8 | | 4 2 | 20 26 | 41 53 | 72 18 | 110 23 | 150 41 |
| 9 | | 4 33 | 21 2 | 42 45 | 73 28 | 111 43 | 152 1 |
| 10 | | 5 4 | 21 39 | 43 37 | 74 39 | 113 3 | 153 21 |
| 11 | | 5 34 | 22 16 | 44 30 | 75 51 | 114 23 | 154 42 |
| 12 | | 6 5 | 22 54 | 45 24 | 77 3 | 115 44 | 156 2 |
| 13 | | 6 36 | 23 32 | 46 18 | 78 16 | 117 4 | 157 22 |
| 14 | | 7 7 | 24 10 | 47 12 | 79 28 | 118 25 | 158 42 |
| 15 | | 7 38 | 24 48 | 48 7 | 80 41 | 119 46 | 160 2 |
| 16 | | 8 9 | 25 27 | 49 3 | 81 55 | 121 0 | 161 22 |
| 17 | | 8 40 | 26 7 | 50 0 | 83 10 | 122 27 | 162 42 |
| 18 | | 9 12 | 26 47 | 50 57 | 84 25 | 123 47 | 164 2 |
| 19 | | 9 43 | 27 28 | 51 55 | 85 40 | 125 8 | 165 22 |
| 20 | | 10 15 | 28 9 | 52 53 | 86 55 | 126 29 | 166 42 |
| 21 | | 10 47 | 28 51 | 53 52 | 88 11 | 127 50 | 168 2 |
| 22 | | 11 19 | 29 33 | 54 52 | 89 27 | 129 10 | 169 22 |
| 23 | | 11 52 | 30 15 | 55 52 | 90 44 | 130 31 | 170 42 |
| 24 | | 12 24 | 30 57 | 56 53 | 92 0 | 131 52 | 172 2 |
| 25 | | 12 57 | 31 40 | 57 55 | 93 17 | 133 13 | 173 21 |
| 26 | | 13 30 | 32 23 | 58 57 | 94 35 | 134 34 | 174 41 |
| 27 | | 14 3 | 33 7 | 60 0 | 95 53 | 135 55 | 176 1 |
| 28 | | 14 37 | 33 52 | 61 4 | 97 11 | 137 15 | 177 21 |
| 29 | | 15 10 | 34 38 | 62 9 | 98 29 | 138 36 | 178 41 |
| 30 | | 15 44 | 35 24 | 63 14 | 99 48 | 139 56 | 180 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 220 | 4 | 260 | 12 | 296 | 46 | 324 | 36 | 344 | 16 |
| 1 | 181 | 19 | 221 | 24 | 261 | 31 | 297 | 51 | 325 | 22 | 344 | 50 |
| 2 | 182 | 39 | 222 | 45 | 262 | 49 | 298 | 56 | 326 | 8 | 345 | 23 |
| 3 | 183 | 59 | 224 | 5 | 264 | 7 | 300 | 0 | 326 | 53 | 345 | 57 |
| 4 | 185 | 19 | 225 | 26 | 265 | 25 | 301 | 3 | 327 | 37 | 346 | 30 |
| 5 | 186 | 39 | 226 | 47 | 266 | 43 | 302 | 5 | 328 | 20 | 347 | 3 |
| 6 | 187 | 58 | 228 | 8 | 268 | 0 | 303 | 7 | 329 | 3 | 347 | 36 |
| 7 | 189 | 18 | 229 | 29 | 269 | 16 | 304 | 8 | 329 | 45 | 348 | 8 |
| 8 | 290 | 38 | 230 | 50 | 270 | 33 | 305 | 8 | 330 | 27 | 348 | 41 |
| 9 | 191 | 58 | 232 | 10 | 271 | 49 | 306 | 8 | 331 | 9 | 399 | 13 |
| 10 | 193 | 18 | 233 | 31 | 273 | 5 | 307 | 7 | 331 | 51 | 349 | 45 |
| 11 | 194 | 38 | 234 | 52 | 274 | 20 | 308 | 5 | 332 | 32 | 350 | 17 |
| 12 | 195 | 58 | 236 | 13 | 275 | 35 | 309 | 3 | 333 | 13 | 350 | 48 |
| 13 | 197 | 18 | 237 | 33 | 276 | 50 | 310 | 0 | 333 | 53 | 351 | 20 |
| 14 | 198 | 38 | 238 | 54 | 278 | 5 | 310 | 57 | 334 | 33 | 351 | 51 |
| 15 | 199 | 58 | 240 | 14 | 279 | 19 | 311 | 53 | 335 | 12 | 352 | 22 |
| 16 | 201 | 18 | 241 | 35 | 280 | 32 | 312 | 48 | 335 | 50 | 352 | 53 |
| 17 | 202 | 38 | 242 | 56 | 281 | 44 | 313 | 42 | 336 | 28 | 353 | 24 |
| 18 | 203 | 58 | 244 | 16 | 282 | 57 | 314 | 36 | 337 | 6 | 353 | 55 |
| 19 | 205 | 18 | 245 | 37 | 284 | 9 | 315 | 30 | 337 | 44 | 354 | 26 |
| 20 | 206 | 39 | 246 | 57 | 285 | 21 | 316 | 23 | 338 | 21 | 354 | 56 |
| 21 | 207 | 59 | 248 | 17 | 286 | 32 | 317 | 15 | 338 | 58 | 355 | 27 |
| 22 | 209 | 19 | 249 | 37 | 287 | 42 | 318 | 7 | 339 | 34 | 355 | 58 |
| 23 | 210 | 40 | 250 | 57 | 288 | 52 | 318 | 58 | 340 | 11 | 356 | 28 |
| 24 | 212 | 0 | 252 | 17 | 290 | 2 | 319 | 48 | 340 | 47 | 356 | 59 |
| 25 | 213 | 21 | 253 | 36 | 291 | 11 | 320 | 37 | 341 | 23 | 357 | 29 |
| 26 | 214 | 41 | 254 | 56 | 292 | 19 | 321 | 26 | 341 | 58 | 358 | 0 |
| 27 | 216 | 2 | 256 | 15 | 293 | 26 | 322 | 14 | 342 | 33 | 358 | 30 |
| 28 | 217 | 22 | 257 | 34 | 294 | 33 | 323 | 2 | 343 | 7 | 359 | 0 |
| 29 | 218 | 43 | 258 | 53 | 295 | 40 | 323 | 49 | 343 | 42 | 359 | 30 |
| 30 | 220 | 4 | 260 | 12 | 296 | 46 | 324 | 36 | 344 | 16 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 15 | 18 | 34 | 34 | 62 | 12 | 98 | 58 | 139 | 30 |
| 1 | | 0 | 29 | 15 | 51 | 35 | 20 | 63 | 18 | 100 | 17 | 140 | 52 |
| 2 | | 0 | 58 | 16 | 25 | 36 | 7 | 64 | 25 | 101 | 37 | 142 | 13 |
| 3 | | 1 | 28 | 16 | 58 | 36 | 54 | 65 | 32 | 102 | 57 | 143 | 35 |
| 4 | | 1 | 57 | 17 | 32 | 37 | 41 | 66 | 40 | 104 | 17 | 144 | 56 |
| 5 | | 2 | 27 | 18 | 6 | 38 | 29 | 67 | 48 | 105 | 37 | 146 | 17 |
| 6 | | 2 | 56 | 18 | 41 | 39 | 18 | 68 | 57 | 106 | 57 | 147 | 39 |
| 7 | | 3 | 26 | 19 | 17 | 40 | 8 | 70 | 0 | 108 | 18 | 149 | 0 |
| 8 | | 3 | 55 | 19 | 52 | 40 | 58 | 71 | 16 | 109 | 38 | 150 | 22 |
| 9 | | 4 | 25 | 20 | 28 | 41 | 49 | 72 | 27 | 110 | 59 | 151 | 43 |
| 10 | | 4 | 55 | 21 | 4 | 42 | 40 | 73 | 38 | 112 | 20 | 153 | 4 |
| 11 | | 5 | 25 | 21 | 40 | 43 | 32 | 74 | 50 | 113 | 41 | 154 | 25 |
| 12 | | 5 | 55 | 22 | 17 | 44 | 25 | 76 | 2 | 115 | 2 | 155 | 46 |
| 13 | | 6 | 25 | 22 | 54 | 45 | 19 | 77 | 15 | 116 | 24 | 157 | 7 |
| 14 | | 6 | 55 | 23 | 31 | 46 | 13 | 78 | 28 | 117 | 45 | 158 | 28 |
| 15 | | 7 | 25 | 24 | 9 | 47 | 8 | 79 | 42 | 119 | 7 | 159 | 49 |
| 16 | | 7 | 55 | 24 | 47 | 48 | 3 | 80 | 56 | 120 | 28 | 161 | 10 |
| 17 | | 8 | 26 | 25 | 26 | 48 | 59 | 82 | 11 | 121 | 49 | 162 | 31 |
| 18 | | 8 | 56 | 26 | 5 | 49 | 56 | 83 | 26 | 123 | 11 | 163 | 52 |
| 19 | | 9 | 27 | 26 | 45 | 50 | 54 | 84 | 42 | 124 | 32 | 165 | 13 |
| 20 | | 9 | 58 | 27 | 26 | 51 | 52 | 85 | 58 | 125 | 54 | 166 | 33 |
| 21 | | 10 | 29 | 28 | 7 | 52 | 51 | 87 | 14 | 127 | 15 | 167 | 54 |
| 22 | | 11 | 0 | 28 | 48 | 53 | 51 | 88 | 31 | 128 | 37 | 169 | 15 |
| 23 | | 11 | 32 | 29 | 30 | 54 | 51 | 89 | 48 | 129 | 58 | 170 | 36 |
| 24 | | 12 | 3 | 30 | 11 | 55 | 52 | 91 | 5 | 131 | 20 | 171 | 57 |
| 25 | | 12 | 35 | 30 | 53 | 56 | 54 | 92 | 23 | 132 | 42 | 173 | 17 |
| 26 | | 13 | 7 | 31 | 36 | 57 | 56 | 93 | 42 | 134 | 4 | 174 | 38 |
| 27 | | 13 | 40 | 32 | 20 | 58 | 59 | 95 | 1 | 135 | 26 | 175 | 59 |
| 28 | | 14 | 12 | 33 | 4 | 60 | 3 | 96 | 20 | 136 | 47 | 177 | 19 |
| 29 | | 14 | 45 | 33 | 49 | 61 | 7 | 97 | 39 | 138 | 9 | 178 | 40 |
| 30 | | 15 | 18 | 34 | 34 | 62 | 12 | 98 | 58 | 139 | 30 | 180 | 0 |

| G | ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g. | m. | ♒ g. | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 220 | 30 | 261 | 2 | 297 | 48 | 325 | 26 | 344 | 42 |
| 1 | 181 | 20 | 221 | 51 | 262 | 21 | 298 | 53 | 326 | 11 | 345 | 15 |
| 2 | 182 | 41 | 223 | 13 | 263 | 40 | 299 | 57 | 326 | 56 | 345 | 48 |
| 3 | 184 | 1 | 224 | 34 | 264 | 59 | 301 | 1 | 327 | 40 | 346 | 20 |
| 4 | 185 | 22 | 225 | 56 | 266 | 18 | 302 | 4 | 328 | 24 | 346 | 53 |
| 5 | 186 | 43 | 227 | 18 | 267 | 37 | 303 | 6 | 329 | 7 | 347 | 25 |
| 6 | 188 | 3 | 228 | 40 | 268 | 55 | 304 | 8 | 329 | 49 | 347 | 57 |
| 7 | 189 | 24 | 230 | 2 | 270 | 12 | 305 | 9 | 330 | 30 | 348 | 28 |
| 8 | 190 | 45 | 231 | 23 | 271 | 29 | 306 | 9 | 331 | 12 | 349 | 0 |
| 9 | 192 | 6 | 232 | 45 | 272 | 46 | 307 | 9 | 331 | 53 | 349 | 31 |
| 10 | 193 | 27 | 234 | 6 | 274 | 2 | 308 | 8 | 332 | 34 | 350 | 2 |
| 11 | 194 | 47 | 235 | 28 | 275 | 18 | 309 | 6 | 333 | 15 | 350 | 33 |
| 12 | 196 | 8 | 236 | 49 | 276 | 34 | 310 | 4 | 333 | 55 | 351 | 4 |
| 13 | 197 | 29 | 238 | 11 | 277 | 49 | 311 | 1 | 334 | 34 | 351 | 34 |
| 14 | 198 | 50 | 239 | 32 | 279 | 4 | 311 | 57 | 335 | 13 | 352 | 5 |
| 15 | 200 | 11 | 240 | 53 | 280 | 18 | 312 | 52 | 335 | 51 | 352 | 35 |
| 16 | 201 | 32 | 242 | 15 | 281 | 32 | 313 | 47 | 336 | 29 | 353 | 5 |
| 17 | 202 | 53 | 243 | 36 | 282 | 45 | 314 | 41 | 337 | 6 | 353 | 35 |
| 18 | 204 | 14 | 244 | 58 | 283 | 58 | 315 | 35 | 337 | 43 | 354 | 5 |
| 19 | 205 | 35 | 246 | 19 | 285 | 10 | 316 | 28 | 338 | 20 | 354 | 35 |
| 20 | 206 | 56 | 247 | 40 | 286 | 22 | 317 | 20 | 338 | 56 | 355 | 5 |
| 21 | 208 | 17 | 249 | 1 | 287 | 33 | 318 | 11 | 339 | 32 | 355 | 35 |
| 22 | 209 | 38 | 250 | 22 | 288 | 44 | 319 | 2 | 340 | 8 | 356 | 5 |
| 23 | 211 | 0 | 251 | 42 | 289 | 54 | 319 | 52 | 340 | 43 | 356 | 34 |
| 24 | 212 | 21 | 253 | 3 | 291 | 3 | 320 | 42 | 341 | 19 | 357 | 4 |
| 25 | 213 | 43 | 254 | 23 | 292 | 12 | 321 | 31 | 341 | 54 | 357 | 33 |
| 26 | 215 | 4 | 255 | 43 | 293 | 20 | 322 | 19 | 342 | 28 | 358 | 3 |
| 27 | 216 | 25 | 257 | 3 | 294 | 28 | 323 | 6 | 343 | 2 | 358 | 32 |
| 28 | 217 | 47 | 258 | 23 | 295 | 35 | 323 | 53 | 343 | 35 | 359 | 2 |
| 29 | 219 | 8 | 259 | 43 | 296 | 42 | 324 | 40 | 344 | 9 | 359 | 31 |
| 30 | 220 | 30 | 261 | 2 | 297 | 48 | 325 | 26 | 344 | 42 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 14 | 50 | 33 | 41 | 61 | 7 | 98 | 5 | 139 | 2 |
| 1 | 0 | 28 | 15 | 23 | 34 | 26 | 62 | 13 | 99 | 25 | 140 | 25 |
| 2 | 0 | 56 | 15 | 56 | 35 | 12 | 63 | 20 | 100 | 46 | 141 | 47 |
| 3 | 1 | 25 | 16 | 29 | 35 | 58 | 64 | 27 | 102 | 6 | 143 | 10 |
| 4 | 1 | 53 | 17 | 2 | 36 | 45 | 65 | 35 | 103 | 27 | 144 | 32 |
| 5 | 2 | 22 | 17 | 35 | 37 | 33 | 66 | 43 | 104 | 48 | 145 | 54 |
| 6 | 2 | 50 | 18 | 9 | 38 | 22 | 67 | 52 | 106 | 9 | 147 | 17 |
| 7 | 3 | 19 | 18 | 43 | 39 | 12 | 69 | 1 | 107 | 30 | 148 | 39 |
| 8 | 3 | 48 | 19 | 18 | 40 | 1 | 70 | 11 | 108 | 52 | 150 | 1 |
| 9 | 4 | 17 | 19 | 52 | 40 | 51 | 71 | 22 | 110 | 13 | 151 | 23 |
| 10 | 4 | 46 | 20 | 27 | 41 | 41 | 72 | 34 | 111 | 35 | 152 | 45 |
| 11 | 5 | 15 | 21 | 2 | 42 | 32 | 73 | 46 | 112 | 57 | 154 | 7 |
| 12 | 5 | 44 | 21 | 38 | 43 | 24 | 74 | 59 | 114 | 19 | 155 | 29 |
| 13 | 6 | 13 | 22 | 14 | 44 | 17 | 76 | 12 | 115 | 41 | 156 | 51 |
| 14 | 6 | 42 | 22 | 51 | 45 | 11 | 77 | 26 | 117 | 3 | 158 | 13 |
| 15 | 7 | 11 | 23 | 28 | 46 | 6 | 78 | 40 | 118 | 26 | 159 | 35 |
| 16 | 7 | 40 | 24 | 6 | 47 | 1 | 79 | 55 | 119 | 43 | 160 | 57 |
| 17 | 8 | 10 | 24 | 45 | 47 | 57 | 81 | 10 | 121 | 10 | 162 | 19 |
| 18 | 8 | 39 | 25 | 23 | 48 | 53 | 82 | 26 | 122 | 32 | 163 | 41 |
| 19 | 9 | 9 | 26 | 2 | 49 | 50 | 83 | 42 | 123 | 54 | 165 | 3 |
| 20 | 9 | 39 | 26 | 41 | 50 | 48 | 84 | 59 | 125 | 17 | 166 | 24 |
| 21 | 10 | 9 | 27 | 21 | 51 | 47 | 86 | 16 | 126 | 40 | 167 | 46 |
| 22 | 10 | 40 | 28 | 2 | 52 | 47 | 87 | 34 | 128 | 3 | 169 | 8 |
| 23 | 11 | 10 | 28 | 42 | 53 | 47 | 88 | 51 | 129 | 26 | 170 | 29 |
| 24 | 11 | 41 | 29 | 23 | 54 | 48 | 90 | 9 | 130 | 49 | 171 | 51 |
| 25 | 12 | 12 | 30 | 4 | 55 | 49 | 91 | 27 | 132 | 11 | 173 | 12 |
| 26 | 12 | 43 | 30 | 46 | 56 | 51 | 92 | 46 | 133 | 34 | 174 | 34 |
| 27 | 13 | 15 | 31 | 29 | 57 | 54 | 94 | 6 | 134 | 56 | 175 | 56 |
| 28 | 13 | 46 | 32 | 12 | 58 | 58 | 95 | 25 | 136 | 18 | 177 | 17 |
| 29 | 14 | 18 | 32 | 56 | 60 | 2 | 96 | 45 | 137 | 40 | 178 | 39 |
| 30 | 14 | 50 | 33 | 41 | 61 | 7 | 98 | 5 | 139 | 2 | 180 | 0 |

| G | ♎ g. | m. | ♏ g. | m. | ♐ g. | m. | ♑ g | m. | ♒ g | m. | ♓ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 180 | 0 | 220 | 58 | 261 | 55 | 298 | 53 | 326 | 19 | 345 | 10 |
| 1 | 181 | 21 | 222 | 20 | 263 | 15 | 299 | 58 | 327 | 4 | 345 | 42 |
| 2 | 182 | 43 | 223 | 42 | 264 | 35 | 301 | 2 | 327 | 48 | 346 | 14 |
| 3 | 184 | 4 | 225 | 4 | 265 | 54 | 302 | 6 | 328 | 31 | 346 | 45 |
| 4 | 185 | 26 | 226 | 26 | 267 | 14 | 303 | 9 | 329 | 14 | 347 | 17 |
| 5 | 186 | 48 | 227 | 49 | 268 | 33 | 304 | 11 | 329 | 56 | 347 | 48 |
| 6 | 188 | 9 | 229 | 11 | 269 | 51 | 305 | 12 | 330 | 37 | 348 | 19 |
| 7 | 189 | 31 | 230 | 34 | 271 | 9 | 306 | 13 | 331 | 18 | 348 | 50 |
| 8 | 190 | 52 | 231 | 57 | 272 | 26 | 307 | 13 | 331 | 58 | 349 | 20 |
| 9 | 192 | 14 | 233 | 20 | 273 | 43 | 308 | 13 | 332 | 39 | 349 | 51 |
| 10 | 193 | 30 | 234 | 43 | 275 | 1 | 309 | 12 | 333 | 19 | 350 | 21 |
| 11 | 194 | 57 | 236 | 6 | 276 | 18 | 310 | 10 | 333 | 58 | 350 | 51 |
| 12 | 196 | 19 | 237 | 28 | 277 | 34 | 311 | 7 | 334 | 37 | 351 | 21 |
| 13 | 197 | 41 | 238 | 50 | 278 | 50 | 312 | 3 | 335 | 15 | 351 | 50 |
| 14 | 199 | 3 | 240 | 12 | 280 | 5 | 312 | 59 | 335 | 54 | 352 | 20 |
| 15 | 200 | 25 | 241 | 34 | 281 | 20 | 313 | 54 | 336 | 32 | 352 | 49 |
| 16 | 201 | 47 | 242 | 57 | 282 | 34 | 314 | 49 | 337 | 9 | 353 | 18 |
| 17 | 203 | 9 | 244 | 19 | 283 | 48 | 315 | 43 | 337 | 46 | 353 | 47 |
| 18 | 204 | 31 | 245 | 41 | 285 | 1 | 316 | 36 | 338 | 22 | 354 | 16 |
| 19 | 205 | 53 | 247 | 3 | 286 | 14 | 317 | 28 | 338 | 58 | 354 | 45 |
| 20 | 207 | 15 | 248 | 25 | 287 | 26 | 318 | 19 | 339 | 33 | 355 | 14 |
| 21 | 208 | 37 | 249 | 47 | 288 | 38 | 319 | 9 | 340 | 8 | 355 | 43 |
| 22 | 209 | 59 | 251 | 8 | 289 | 49 | 319 | 59 | 340 | 42 | 356 | 12 |
| 23 | 211 | 21 | 252 | 39 | 290 | 59 | 320 | 48 | 341 | 17 | 356 | 41 |
| 24 | 212 | 43 | 253 | 51 | 292 | 8 | 321 | 38 | 341 | 51 | 357 | 10 |
| 25 | 214 | 6 | 255 | 12 | 293 | 17 | 322 | 27 | 342 | 25 | 357 | 38 |
| 26 | 215 | 28 | 256 | 33 | 294 | 25 | 323 | 15 | 343 | 58 | 358 | 7 |
| 27 | 216 | 50 | 257 | 54 | 295 | 33 | 324 | 2 | 343 | 31 | 358 | 35 |
| 28 | 218 | 13 | 259 | 14 | 296 | 40 | 324 | 48 | 344 | 4 | 359 | 4 |
| 29 | 219 | 35 | 260 | 35 | 297 | 47 | 325 | 34 | 344 | 37 | 359 | 32 |
| 30 | 220 | 58 | 261 | 55 | 298 | 53 | 326 | 19 | 345 | 10 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 14 | 22 | 32 | 45 | 59 | 59 | 97 | 9 | 138 | 34 |
| 1 | | 0 | 27 | 14 | 58 | 33 | 30 | 61 | 5 | 98 | 30 | 139 | 58 |
| 2 | | 0 | 55 | 15 | 25 | 34 | 15 | 62 | 11 | 99 | 51 | 141 | 21 |
| 3 | | 1 | 22 | 15 | 57 | 35 | 1 | 63 | 18 | 101 | 13 | 142 | 44 |
| 4 | | 1 | 50 | 16 | 29 | 35 | 47 | 64 | 26 | 102 | 34 | 144 | 7 |
| 5 | | 2 | 18 | 17 | 1 | 36 | 34 | 65 | 35 | 103 | 56 | 145 | 30 |
| 6 | | 2 | 45 | 17 | 34 | 37 | 22 | 66 | 44 | 105 | 18 | 146 | 54 |
| 7 | | 3 | 13 | 18 | 8 | 38 | 10 | 67 | 54 | 106 | 40 | 148 | 17 |
| 8 | | 3 | 40 | 18 | 41 | 38 | 59 | 69 | 5 | 108 | 3 | 149 | 40 |
| 9 | | 4 | 8 | 19 | 15 | 39 | 49 | 70 | 16 | 109 | 25 | 151 | 3 |
| 10 | | 4 | 36 | 19 | 49 | 40 | 39 | 71 | 28 | 110 | 48 | 152 | 26 |
| 11 | | 5 | 4 | 20 | 24 | 41 | 30 | 72 | 40 | 112 | 11 | 153 | 49 |
| 12 | | 5 | 32 | 21 | 0 | 42 | 22 | 73 | 53 | 113 | 34 | 155 | 12 |
| 13 | | 6 | 0 | 21 | 35 | 43 | 14 | 75 | 6 | 114 | 57 | 156 | 35 |
| 14 | | 6 | 28 | 22 | 10 | 44 | 7 | 76 | 20 | 116 | 20 | 157 | 58 |
| 15 | | 6 | 57 | 22 | 46 | 45 | 1 | 77 | 35 | 117 | 44 | 159 | 21 |
| 16 | | 7 | 25 | 23 | 23 | 45 | 56 | 78 | 51 | 119 | 7 | 160 | 44 |
| 17 | | 7 | 54 | 24 | 1 | 46 | 52 | 80 | 7 | 120 | 30 | 162 | 7 |
| 18 | | 8 | 22 | 24 | 38 | 47 | 48 | 81 | 24 | 121 | 53 | 163 | 29 |
| 19 | | 8 | 51 | 25 | 16 | 48 | 45 | 82 | 40 | 123 | 16 | 164 | 52 |
| 20 | | 9 | 20 | 25 | 54 | 49 | 42 | 83 | 57 | 124 | 39 | 166 | 14 |
| 21 | | 9 | 49 | 26 | 33 | 50 | 40 | 85 | 14 | 126 | 2 | 167 | 37 |
| 22 | | 10 | 19 | 27 | 13 | 51 | 39 | 86 | 32 | 127 | 26 | 169 | 0 |
| 23 | | 10 | 48 | 27 | 52 | 52 | 39 | 87 | 50 | 128 | 49 | 170 | 23 |
| 24 | | 11 | 18 | 28 | 32 | 53 | 40 | 89 | 9 | 130 | 13 | 171 | 46 |
| 25 | | 11 | 48 | 29 | 12 | 54 | 41 | 90 | 28 | 131 | 37 | 173 | 8 |
| 26 | | 12 | 18 | 29 | 53 | 55 | 43 | 91 | 48 | 133 | 1 | 174 | 31 |
| 27 | | 12 | 49 | 30 | 35 | 56 | 46 | 93 | 8 | 134 | 24 | 175 | 53 |
| 28 | | 13 | 20 | 31 | 18 | 57 | 50 | 94 | 28 | 135 | 48 | 177 | 16 |
| 29 | | 13 | 51 | 32 | 1 | 58 | 54 | 95 | 48 | 137 | 11 | 178 | 38 |
| 30 | | 14 | 22 | 32 | 45 | 59 | 59 | 97 | 9 | 138 | 34 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 221 | 26 | 262 | 51 | 300 | 1 | 327 | 15 | 345 | 38 |
| 1 | 181 | 22 | 222 | 49 | 264 | 12 | 301 | 6 | 327 | 59 | 346 | 9 |
| 2 | 182 | 44 | 224 | 12 | 265 | 32 | 302 | 10 | 328 | 42 | 346 | 40 |
| 3 | 184 | 7 | 225 | 36 | 266 | 52 | 303 | 14 | 329 | 25 | 347 | 11 |
| 4 | 185 | 29 | 226 | 59 | 268 | 12 | 304 | 17 | 330 | 7 | 347 | 42 |
| 5 | 186 | 52 | 228 | 23 | 269 | 32 | 305 | 19 | 330 | 48 | 348 | 12 |
| 6 | 188 | 14 | 229 | 47 | 270 | 51 | 306 | 20 | 331 | 28 | 348 | 42 |
| 7 | 189 | 37 | 231 | 11 | 272 | 10 | 307 | 21 | 332 | 8 | 349 | 12 |
| 8 | 191 | 0 | 232 | 34 | 273 | 28 | 308 | 21 | 332 | 47 | 349 | 41 |
| 9 | 192 | 23 | 233 | 58 | 274 | 46 | 309 | 20 | 333 | 27 | 350 | 11 |
| 10 | 193 | 46 | 235 | 21 | 276 | 3 | 310 | 18 | 334 | 6 | 350 | 40 |
| 11 | 195 | 8 | 236 | 44 | 277 | 20 | 311 | 15 | 334 | 44 | 351 | 9 |
| 12 | 196 | 31 | 238 | 7 | 278 | 36 | 312 | 12 | 335 | 22 | 351 | 38 |
| 13 | 197 | 53 | 239 | 30 | 279 | 53 | 313 | 8 | 335 | 59 | 352 | 6 |
| 14 | 199 | 16 | 240 | 53 | 281 | 9 | 314 | 4 | 336 | 37 | 352 | 35 |
| 15 | 200 | 39 | 242 | 16 | 282 | 25 | 314 | 59 | 337 | 14 | 353 | 3 |
| 16 | 202 | 2 | 243 | 40 | 283 | 40 | 315 | 53 | 337 | 50 | 353 | 32 |
| 17 | 203 | 25 | 245 | 3 | 284 | 54 | 316 | 46 | 338 | 25 | 354 | 0 |
| 18 | 204 | 48 | 246 | 26 | 286 | 7 | 317 | 38 | 339 | 0 | 354 | 28 |
| 19 | 206 | 11 | 247 | 49 | 287 | 20 | 318 | 30 | 339 | 36 | 354 | 56 |
| 20 | 207 | 34 | 249 | 12 | 288 | 32 | 319 | 21 | 340 | 11 | 355 | 24 |
| 21 | 208 | 57 | 250 | 35 | 289 | 44 | 320 | 11 | 340 | 45 | 355 | 52 |
| 22 | 210 | 20 | 251 | 57 | 290 | 55 | 321 | 1 | 341 | 19 | 356 | 20 |
| 23 | 211 | 43 | 253 | 20 | 292 | 6 | 321 | 50 | 341 | 52 | 356 | 47 |
| 24 | 213 | 6 | 254 | 42 | 293 | 16 | 322 | 38 | 342 | 26 | 357 | 15 |
| 25 | 214 | 30 | 256 | 4 | 294 | 25 | 323 | 26 | 342 | 59 | 357 | 42 |
| 26 | 215 | 53 | 257 | 26 | 295 | 34 | 324 | 13 | 343 | 31 | 358 | 10 |
| 27 | 217 | 16 | 258 | 47 | 296 | 42 | 324 | 59 | 344 | 3 | 358 | 38 |
| 28 | 218 | 39 | 260 | 9 | 297 | 49 | 325 | 45 | 344 | 35 | 359 | 5 |
| 29 | 220 | 2 | 261 | 30 | 298 | 55 | 326 | 30 | 345 | 7 | 359 | 33 |
| 30 | 221 | 26 | 262 | 51 | 300 | 1 | 327 | 15 | 345 | 38 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 13 | 13 | 31 | 52 | 58 | 47 | 96 | 11 | 138 | 4 |
| 1 | | 0 | 26 | 14 | 22 | 32 | 31 | 59 | 53 | 97 | 33 | 139 | 29 |
| 2 | | 0 | 53 | 14 | 53 | 33 | 15 | 61 | 0 | 98 | 55 | 140 | 53 |
| 3 | | 1 | 19 | 15 | 24 | 34 | 0 | 62 | 7 | 100 | 18 | 142 | 18 |
| 4 | | 1 | 46 | 15 | 55 | 34 | 46 | 63 | 15 | 101 | 40 | 143 | 42 |
| 5 | | 2 | 13 | 16 | 26 | 35 | 32 | 64 | 24 | 103 | 3 | 145 | 6 |
| 6 | | 2 | 39 | 16 | 58 | 36 | 19 | 65 | 33 | 104 | 26 | 146 | 30 |
| 7 | | 3 | 6 | 17 | 31 | 37 | 7 | 66 | 43 | 105 | 49 | 147 | 54 |
| 8 | | 3 | 32 | 18 | 3 | 37 | 55 | 67 | 55 | 107 | 12 | 149 | 18 |
| 9 | | 3 | 59 | 18 | 36 | 38 | 44 | 69 | 6 | 108 | 35 | 150 | 42 |
| 10 | | 4 | 26 | 19 | 9 | 39 | 33 | 70 | 18 | 109 | 58 | 152 | 6 |
| 11 | | 4 | 53 | 19 | 43 | 40 | 23 | 71 | 31 | 111 | 22 | 153 | 30 |
| 12 | | 5 | 20 | 20 | 17 | 41 | 14 | 72 | 44 | 112 | 46 | 154 | 54 |
| 13 | | 5 | 47 | 20 | 52 | 42 | 6 | 73 | 58 | 114 | 10 | 156 | 18 |
| 14 | | 6 | 14 | 21 | 26 | 42 | 59 | 75 | 12 | 115 | 34 | 157 | 42 |
| 15 | | 6 | 42 | 22 | 1 | 43 | 53 | 76 | 27 | 116 | 59 | 159 | 6 |
| 16 | | 7 | 9 | 22 | 36 | 44 | 47 | 77 | 43 | 118 | 23 | 160 | 30 |
| 17 | | 7 | 37 | 23 | 12 | 45 | 42 | 78 | 59 | 119 | 47 | 161 | 54 |
| 18 | | 8 | 4 | 23 | 49 | 46 | 38 | 80 | 16 | 121 | 11 | 163 | 17 |
| 19 | | 8 | 32 | 24 | 26 | 47 | 35 | 81 | 33 | 122 | 35 | 164 | 41 |
| 20 | | 9 | 0 | 25 | 4 | 48 | 32 | 82 | 51 | 123 | 59 | 166 | 4 |
| 21 | | 9 | 28 | 25 | 42 | 49 | 30 | 84 | 9 | 125 | 23 | 167 | 28 |
| 22 | | 9 | 57 | 26 | 21 | 50 | 29 | 85 | 27 | 126 | 48 | 168 | 52 |
| 23 | | 10 | 26 | 27 | 0 | 51 | 29 | 86 | 46 | 128 | 12 | 170 | 16 |
| 24 | | 10 | 55 | 27 | 39 | 52 | 29 | 88 | 6 | 129 | 37 | 171 | 40 |
| 25 | | 11 | 24 | 28 | 19 | 53 | 30 | 89 | 26 | 131 | 2 | 173 | 3 |
| 26 | | 11 | 53 | 28 | 59 | 54 | 32 | 90 | 47 | 132 | 27 | 174 | 27 |
| 27 | | 12 | 23 | 29 | 40 | 55 | 35 | 92 | 8 | 133 | 51 | 175 | 50 |
| 28 | | 12 | 52 | 30 | 22 | 56 | 38 | 93 | 29 | 135 | 16 | 177 | 14 |
| 29 | | 13 | 22 | 31 | 4 | 57 | 42 | 94 | 50 | 136 | 40 | 178 | 37 |
| 30 | | 13 | 52 | 31 | 47 | 58 | 47 | 96 | 11 | 138 | 4 | 180 | 0 |

| G | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 221 | 56 | 263 | 49 | 301 | 13 | 328 | 13 | 346 | 8 |
| 1 | 181 | 23 | 223 | 20 | 265 | 10 | 302 | 18 | 328 | 56 | 346 | 38 |
| 2 | 182 | 46 | 224 | 44 | 266 | 31 | 303 | 22 | 329 | 38 | 347 | 8 |
| 3 | 184 | 10 | 226 | 9 | 267 | 52 | 304 | 25 | 330 | 20 | 347 | 37 |
| 4 | 185 | 33 | 227 | 33 | 269 | 13 | 305 | 28 | 331 | 1 | 348 | 7 |
| 5 | 186 | 57 | 228 | 58 | 270 | 34 | 306 | 30 | 332 | 41 | 348 | 36 |
| 6 | 188 | 20 | 230 | 23 | 271 | 54 | 307 | 31 | 332 | 21 | 349 | 5 |
| 7 | 189 | 44 | 231 | 48 | 273 | 14 | 308 | 31 | 333 | 0 | 349 | 34 |
| 8 | 191 | 8 | 233 | 12 | 274 | 33 | 309 | 31 | 333 | 39 | 350 | 3 |
| 9 | 192 | 32 | 234 | 37 | 275 | 51 | 310 | 30 | 334 | 18 | 350 | 32 |
| 10 | 193 | 56 | 236 | 1 | 277 | 9 | 311 | 28 | 334 | 56 | 351 | 0 |
| 11 | 195 | 19 | 237 | 25 | 278 | 27 | 312 | 25 | 335 | 34 | 351 | 28 |
| 12 | 196 | 43 | 238 | 49 | 279 | 44 | 313 | 22 | 336 | 11 | 351 | 56 |
| 13 | 198 | 6 | 240 | 13 | 281 | 1 | 314 | 18 | 336 | 48 | 352 | 23 |
| 14 | 199 | 30 | 241 | 37 | 282 | 17 | 315 | 13 | 337 | 24 | 352 | 51 |
| 15 | 200 | 54 | 243 | 1 | 283 | 33 | 316 | 7 | 337 | 59 | 353 | 18 |
| 16 | 202 | 18 | 244 | 26 | 284 | 48 | 317 | 1 | 338 | 34 | 353 | 46 |
| 17 | 203 | 42 | 245 | 50 | 286 | 2 | 317 | 54 | 339 | 8 | 354 | 13 |
| 18 | 205 | 6 | 247 | 14 | 287 | 16 | 318 | 46 | 339 | 43 | 354 | 40 |
| 19 | 206 | 30 | 248 | 38 | 288 | 29 | 319 | 37 | 340 | 17 | 355 | 7 |
| 20 | 207 | 54 | 250 | 2 | 289 | 42 | 320 | 27 | 340 | 51 | 355 | 34 |
| 21 | 209 | 18 | 251 | 25 | 290 | 54 | 321 | 16 | 341 | 24 | 356 | 1 |
| 22 | 210 | 42 | 252 | 48 | 292 | 5 | 322 | 5 | 341 | 57 | 356 | 28 |
| 23 | 212 | 6 | 254 | 11 | 293 | 17 | 322 | 53 | 342 | 29 | 356 | 54 |
| 24 | 213 | 30 | 255 | 34 | 294 | 27 | 323 | 41 | 343 | 2 | 357 | 21 |
| 25 | 214 | 54 | 256 | 57 | 295 | 36 | 324 | 28 | 343 | 34 | 357 | 47 |
| 26 | 216 | 18 | 258 | 20 | 296 | 45 | 325 | 14 | 344 | 5 | 358 | 14 |
| 27 | 217 | 42 | 259 | 42 | 297 | 53 | 326 | 0 | 344 | 36 | 358 | 41 |
| 28 | 219 | 7 | 261 | 5 | 299 | 0 | 326 | 45 | 345 | 7 | 359 | 7 |
| 29 | 220 | 31 | 262 | 27 | 300 | 7 | 327 | 29 | 345 | 38 | 359 | 34 |
| 30 | 221 | 56 | 263 | 49 | 301 | 13 | 328 | 13 | 346 | 8 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 13 | 21 | 30 | 46 | 57 | 31 | 95 | 10 | 137 | 33 |
| 1 | | 0 | 25 | 13 | 50 | 31 | 29 | 58 | 37 | 96 | 33 | 138 | 59 |
| 2 | | 0 | 50 | 14 | 20 | 32 | 13 | 59 | 44 | 97 | 56 | 140 | 24 |
| 3 | | 1 | 16 | 14 | 50 | 32 | 57 | 60 | 51 | 99 | 19 | 141 | 50 |
| 4 | | 1 | 41 | 15 | 20 | 33 | 42 | 61 | 59 | 100 | 42 | 143 | 15 |
| 5 | | 2 | 7 | 15 | 50 | 34 | 27 | 63 | 8 | 102 | 6 | 144 | 40 |
| 6 | | 2 | 32 | 16 | 21 | 35 | 43 | 64 | 18 | 103 | 30 | 146 | 6 |
| 7 | | 2 | 58 | 16 | 53 | 36 | 0 | 65 | 29 | 104 | 54 | 147 | 31 |
| 8 | | 3 | 24 | 17 | 24 | 36 | 48 | 66 | 40 | 106 | 18 | 148 | 56 |
| 9 | | 3 | 50 | 17 | 56 | 37 | 36 | 67 | 52 | 107 | 42 | 150 | 21 |
| 10 | | 4 | 16 | 18 | 28 | 38 | 25 | 69 | 4 | 109 | 7 | 151 | 46 |
| 11 | | 4 | 42 | 19 | 1 | 39 | 15 | 70 | 17 | 110 | 32 | 153 | 11 |
| 12 | | 5 | 8 | 19 | 34 | 40 | 5 | 71 | 30 | 111 | 57 | 154 | 36 |
| 13 | | 5 | 34 | 20 | 7 | 40 | 56 | 72 | 44 | 113 | 22 | 156 | 1 |
| 14 | | 6 | 0 | 20 | 40 | 41 | 48 | 73 | 59 | 114 | 47 | 157 | 26 |
| 15 | | 6 | 26 | 21 | 14 | 42 | 41 | 75 | 15 | 116 | 12 | 158 | 50 |
| 16 | | 6 | 52 | 21 | 49 | 43 | 35 | 76 | 32 | 117 | 37 | 160 | 15 |
| 17 | | 7 | 19 | 22 | 25 | 44 | 30 | 77 | 50 | 119 | 2 | 161 | 40 |
| 18 | | 7 | 46 | 23 | 1 | 45 | 25 | 79 | 8 | 120 | 27 | 163 | 5 |
| 19 | | 8 | 13 | 23 | 37 | 46 | 21 | 80 | 25 | 121 | 52 | 164 | 30 |
| 20 | | 8 | 40 | 24 | 13 | 47 | 18 | 81 | 43 | 123 | 18 | 165 | 54 |
| 21 | | 9 | 7 | 24 | 50 | 48 | 16 | 83 | 2 | 124 | 43 | 167 | 19 |
| 22 | | 9 | 35 | 25 | 28 | 49 | 14 | 84 | 21 | 126 | 9 | 168 | 44 |
| 23 | | 10 | 2 | 26 | 6 | 50 | 13 | 85 | 41 | 127 | 35 | 170 | 8 |
| 24 | | 10 | 30 | 26 | 44 | 51 | 13 | 87 | 1 | 129 | 1 | 171 | 33 |
| 25 | | 10 | 58 | 27 | 22 | 52 | 14 | 88 | 21 | 130 | 26 | 172 | 57 |
| 26 | | 11 | 26 | 28 | 1 | 53 | 16 | 89 | 42 | 131 | 52 | 174 | 22 |
| 27 | | 11 | 55 | 28 | 41 | 54 | 19 | 91 | 4 | 133 | 17 | 175 | 47 |
| 28 | | 12 | 23 | 29 | 22 | 55 | 22 | 92 | 26 | 134 | 43 | 177 | 11 |
| 29 | | 12 | 52 | 30 | 4 | 56 | 26 | 93 | 48 | 136 | 8 | 178 | 36 |
| 30 | | 13 | 21 | 30 | 46 | 57 | 31 | 95 | 10 | 137 | 33 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 222 | 27 | 264 | 50 | 302 | 29 | 329 | 14 | 346 | 39 |
| 1 | 181 | 24 | 223 | 52 | 266 | 12 | 303 | 34 | 329 | 56 | 347 | 8 |
| 2 | 182 | 49 | 225 | 17 | 267 | 34 | 304 | 38 | 330 | 38 | 347 | 37 |
| 3 | 184 | 13 | 226 | 43 | 268 | 56 | 305 | 41 | 331 | 19 | 348 | 5 |
| 4 | 185 | 38 | 228 | 8 | 270 | 18 | 306 | 44 | 331 | 59 | 348 | 34 |
| 5 | 187 | 3 | 229 | 34 | 271 | 39 | 307 | 46 | 332 | 38 | 349 | 2 |
| 6 | 188 | 27 | 230 | 59 | 272 | 59 | 308 | 47 | 333 | 16 | 349 | 30 |
| 7 | 189 | 52 | 232 | 25 | 274 | 19 | 309 | 47 | 333 | 54 | 349 | 58 |
| 8 | 191 | 16 | 233 | 51 | 275 | 39 | 310 | 46 | 334 | 32 | 350 | 25 |
| 9 | 192 | 41 | 235 | 17 | 276 | 58 | 311 | 44 | 335 | 10 | 350 | 53 |
| 10 | 194 | 6 | 236 | 42 | 278 | 17 | 312 | 42 | 335 | 47 | 351 | 20 |
| 11 | 195 | 30 | 238 | 8 | 279 | 35 | 313 | 39 | 336 | 23 | 351 | 47 |
| 12 | 196 | 55 | 239 | 33 | 280 | 52 | 314 | 35 | 336 | 59 | 352 | 14 |
| 13 | 198 | 20 | 240 | 58 | 282 | 10 | 315 | 30 | 337 | 35 | 352 | 41 |
| 14 | 199 | 45 | 242 | 23 | 283 | 28 | 316 | 25 | 338 | 11 | 353 | 8 |
| 15 | 201 | 10 | 243 | 48 | 284 | 45 | 317 | 19 | 338 | 46 | 353 | 34 |
| 16 | 202 | 34 | 245 | 13 | 286 | 1 | 318 | 12 | 339 | 20 | 354 | 0 |
| 17 | 203 | 59 | 246 | 38 | 287 | 16 | 319 | 4 | 339 | 53 | 354 | 26 |
| 18 | 205 | 24 | 248 | 3 | 288 | 30 | 319 | 55 | 340 | 26 | 354 | 52 |
| 19 | 206 | 49 | 249 | 28 | 289 | 43 | 320 | 45 | 340 | 59 | 355 | 18 |
| 20 | 208 | 14 | 250 | 53 | 290 | 56 | 321 | 35 | 341 | 32 | 355 | 44 |
| 21 | 209 | 39 | 252 | 18 | 292 | 8 | 322 | 24 | 342 | 4 | 356 | 10 |
| 22 | 211 | 4 | 253 | 42 | 293 | 20 | 323 | 12 | 342 | 36 | 356 | 36 |
| 23 | 212 | 29 | 255 | 6 | 294 | 31 | 324 | 0 | 343 | 7 | 357 | 2 |
| 24 | 213 | 54 | 256 | 30 | 295 | 42 | 324 | 47 | 343 | 39 | 357 | 28 |
| 25 | 215 | 20 | 257 | 54 | 296 | 52 | 325 | 33 | 344 | 10 | 357 | 53 |
| 26 | 216 | 45 | 259 | 18 | 298 | 1 | 326 | 18 | 344 | 40 | 358 | 19 |
| 27 | 218 | 10 | 260 | 41 | 299 | 9 | 327 | 3 | 345 | 10 | 358 | 44 |
| 28 | 219 | 36 | 262 | 4 | 300 | 16 | 327 | 47 | 345 | 40 | 359 | 10 |
| 29 | 221 | 1 | 263 | 27 | 301 | 23 | 328 | 31 | 346 | 10 | 359 | 35 |
| 30 | 222 | 27 | 264 | 50 | 302 | 29 | 329 | 14 | 346 | 39 | 360 | 0 |

| | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 0 | 0 | 12 | 48 | 29 | 42 | 56 | 11 | 94 | 6 | 137 | 0 |
| 1 | 0 | 24 | 13 | 16 | 30 | 24 | 57 | 17 | 95 | 30 | 138 | 27 |
| 2 | 0 | 48 | 13 | 45 | 31 | 7 | 58 | 24 | 96 | 54 | 139 | 54 |
| 3 | 1 | 13 | 14 | 14 | 31 | 50 | 59 | 31 | 98 | 18 | 141 | 20 |
| 4 | 1 | 37 | 14 | 43 | 32 | 34 | 60 | 39 | 99 | 42 | 142 | 47 |
| 5 | 2 | 2 | 15 | 12 | 33 | 18 | 61 | 48 | 101 | 7 | 144 | 13 |
| 6 | 2 | 26 | 15 | 42 | 34 | 3 | 62 | 58 | 102 | 32 | 145 | 40 |
| 7 | 2 | 51 | 16 | 13 | 34 | 49 | 64 | 9 | 103 | 57 | 147 | 6 |
| 8 | 3 | 15 | 16 | 43 | 35 | 36 | 65 | 20 | 105 | 22 | 148 | 32 |
| 9 | 3 | 40 | 17 | 14 | 36 | 24 | 66 | 32 | 106 | 47 | 149 | 58 |
| 10 | 4 | 5 | 17 | 45 | 37 | 12 | 67 | 45 | 108 | 12 | 151 | 24 |
| 11 | 4 | 30 | 18 | 16 | 38 | 1 | 68 | 59 | 109 | 38 | 152 | 50 |
| 12 | 4 | 55 | 18 | 48 | 38 | 51 | 70 | 13 | 111 | 4 | 154 | 16 |
| 13 | 5 | 20 | 19 | 20 | 39 | 42 | 71 | 28 | 112 | 30 | 155 | 42 |
| 14 | 5 | 45 | 19 | 52 | 40 | 34 | 72 | 44 | 113 | 56 | 157 | 8 |
| 15 | 6 | 10 | 20 | 25 | 41 | 26 | 74 | 0 | 115 | 23 | 158 | 34 |
| 16 | 6 | 35 | 20 | 59 | 42 | 19 | 75 | 17 | 116 | 49 | 160 | 0 |
| 17 | 7 | 1 | 21 | 34 | 43 | 13 | 76 | 34 | 118 | 15 | 161 | 26 |
| 18 | 7 | 26 | 22 | 8 | 44 | 8 | 77 | 52 | 119 | 42 | 162 | 52 |
| 19 | 7 | 52 | 22 | 43 | 45 | 3 | 79 | 11 | 121 | 8 | 164 | 18 |
| 20 | 8 | 18 | 23 | 18 | 45 | 59 | 80 | 30 | 122 | 35 | 165 | 43 |
| 21 | 8 | 44 | 23 | 54 | 46 | 56 | 81 | 50 | 124 | 2 | 167 | 9 |
| 22 | 9 | 11 | 24 | 31 | 47 | 54 | 83 | 10 | 125 | 28 | 168 | 35 |
| 23 | 9 | 37 | 25 | 8 | 48 | 53 | 84 | 31 | 126 | 55 | 170 | 1 |
| 24 | 10 | 4 | 25 | 45 | 49 | 53 | 85 | 51 | 128 | 22 | 171 | 27 |
| 25 | 10 | 31 | 26 | 23 | 50 | 54 | 87 | 12 | 129 | 48 | 172 | 52 |
| 26 | 10 | 58 | 27 | 2 | 51 | 56 | 88 | 34 | 131 | 15 | 174 | 18 |
| 27 | 11 | 25 | 27 | 41 | 52 | 59 | 89 | 57 | 132 | 41 | 175 | 44 |
| 28 | 11 | 53 | 28 | 21 | 54 | 2 | 91 | 20 | 134 | 8 | 177 | 9 |
| 29 | 12 | 20 | 29 | 1 | 55 | 6 | 92 | 43 | 135 | 34 | 178 | 35 |
| 30 | 12 | 48 | 29 | 42 | 56 | 11 | 94 | 6 | 137 | 0 | 180 | 0 |

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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 223 | 0 | 265 | 54 | 303 | 49 | 330 | 18 | 347 | 12 |
| 1 | 181 | 25 | 224 | 26 | 267 | 17 | 304 | 54 | 330 | 59 | 347 | 40 |
| 2 | 182 | 51 | 225 | 52 | 268 | 40 | 305 | 58 | 331 | 39 | 348 | 7 |
| 3 | 184 | 16 | 227 | 19 | 270 | 3 | 307 | 1 | 332 | 19 | 348 | 35 |
| 4 | 185 | 42 | 228 | 45 | 271 | 26 | 308 | 4 | 332 | 58 | 349 | 2 |
| 5 | 187 | 8 | 230 | 12 | 272 | 48 | 309 | 6 | 333 | 37 | 349 | 29 |
| 6 | 188 | 33 | 231 | 38 | 274 | 9 | 310 | 7 | 334 | 15 | 349 | 56 |
| 7 | 189 | 59 | 233 | 5 | 275 | 29 | 311 | 7 | 334 | 52 | 350 | 23 |
| 8 | 191 | 25 | 234 | 32 | 276 | 50 | 312 | 6 | 335 | 29 | 350 | 49 |
| 9 | 192 | 51 | 235 | 58 | 278 | 10 | 313 | 4 | 336 | 6 | 351 | 16 |
| 10 | 194 | 17 | 237 | 25 | 279 | 30 | 314 | 1 | 336 | 42 | 351 | 42 |
| 11 | 195 | 42 | 238 | 52 | 280 | 49 | 314 | 57 | 337 | 17 | 352 | 8 |
| 12 | 197 | 8 | 240 | 18 | 282 | 8 | 315 | 52 | 337 | 52 | 352 | 34 |
| 13 | 198 | 34 | 241 | 45 | 283 | 26 | 316 | 47 | 338 | 26 | 352 | 59 |
| 14 | 200 | 0 | 243 | 11 | 284 | 43 | 317 | 41 | 339 | 1 | 353 | 25 |
| 15 | 201 | 26 | 244 | 37 | 286 | 0 | 318 | 34 | 339 | 35 | 353 | 50 |
| 16 | 202 | 52 | 246 | 4 | 287 | 16 | 319 | 26 | 340 | 8 | 354 | 15 |
| 17 | 204 | 18 | 247 | 30 | 288 | 32 | 320 | 18 | 340 | 40 | 354 | 40 |
| 18 | 205 | 44 | 248 | 56 | 289 | 47 | 321 | 9 | 341 | 12 | 355 | 5 |
| 19 | 207 | 10 | 250 | 22 | 291 | 1 | 321 | 59 | 341 | 44 | 355 | 30 |
| 20 | 208 | 36 | 251 | 48 | 292 | 15 | 322 | 48 | 342 | 15 | 355 | 55 |
| 21 | 210 | 2 | 253 | 13 | 293 | 28 | 323 | 36 | 342 | 46 | 356 | 20 |
| 22 | 211 | 28 | 254 | 38 | 294 | 40 | 324 | 24 | 343 | 17 | 356 | 45 |
| 23 | 212 | 54 | 256 | 3 | 295 | 51 | 325 | 11 | 343 | 47 | 357 | 9 |
| 24 | 214 | 20 | 257 | 28 | 297 | 2 | 325 | 57 | 344 | 18 | 357 | 34 |
| 25 | 215 | 47 | 258 | 53 | 298 | 12 | 326 | 42 | 344 | 48 | 357 | 58 |
| 26 | 217 | 13 | 260 | 18 | 299 | 21 | 327 | 26 | 345 | 17 | 358 | 23 |
| 27 | 218 | 40 | 261 | 42 | 300 | 29 | 328 | 10 | 345 | 46 | 358 | 47 |
| 28 | 220 | 6 | 263 | 6 | 301 | 36 | 328 | 53 | 346 | 15 | 359 | 12 |
| 29 | 221 | 33 | 264 | 30 | 302 | 43 | 329 | 36 | 346 | 44 | 359 | 36 |
| 30 | 223 | 0 | 265 | 54 | 303 | 49 | 330 | 18 | 347 | 12 | 360 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 12 | 14 | 28 | 34 | 54 | 46 | 92 | 58 | 136 | 26 |
| 1 | | 0 | 23 | 12 | 41 | 29 | 15 | 55 | 52 | 94 | 23 | 137 | 54 |
| 2 | | 0 | 46 | 13 | 8 | 29 | 57 | 56 | 59 | 95 | 48 | 139 | 22 |
| 3 | | 1 | 9 | 13 | 36 | 30 | 39 | 58 | 6 | 97 | 13 | 140 | 49 |
| 4 | | 1 | 32 | 14 | 4 | 31 | 22 | 59 | 14 | 98 | 38 | 142 | 17 |
| 5 | | 1 | 56 | 14 | 32 | 32 | 6 | 60 | 23 | 100 | 4 | 143 | 44 |
| 6 | | 2 | 19 | 15 | 1 | 32 | 51 | 61 | 33 | 101 | 30 | 145 | 12 |
| 7 | | 2 | 43 | 15 | 30 | 33 | 36 | 62 | 44 | 102 | 56 | 146 | 39 |
| 8 | | 3 | 6 | 15 | 59 | 34 | 22 | 63 | 56 | 104 | 22 | 148 | 7 |
| 9 | | 3 | 30 | 16 | 29 | 35 | 8 | 65 | 9 | 105 | 48 | 149 | 34 |
| 10 | | 3 | 54 | 16 | 59 | 35 | 55 | 66 | 22 | 107 | 15 | 151 | 1 |
| 11 | | 4 | 17 | 17 | 29 | 36 | 43 | 67 | 36 | 108 | 42 | 152 | 29 |
| 12 | | 4 | 41 | 18 | 0 | 37 | 32 | 68 | 51 | 110 | 9 | 153 | 56 |
| 13 | | 5 | 5 | 18 | 31 | 38 | 22 | 70 | 6 | 111 | 36 | 155 | 23 |
| 14 | | 5 | 29 | 19 | 2 | 39 | 13 | 71 | 22 | 113 | 4 | 156 | 50 |
| 15 | | 5 | 53 | 19 | 34 | 40 | 5 | 72 | 39 | 114 | 32 | 158 | 17 |
| 16 | | 6 | 17 | 20 | 7 | 40 | 57 | 73 | 57 | 115 | 59 | 159 | 44 |
| 17 | | 6 | 41 | 20 | 46 | 41 | 50 | 75 | 15 | 117 | 26 | 161 | 11 |
| 18 | | 7 | 5 | 21 | 13 | 42 | 44 | 76 | 34 | 118 | 54 | 162 | 38 |
| 19 | | 7 | 30 | 21 | 47 | 43 | 39 | 77 | 53 | 120 | 21 | 164 | 5 |
| 20 | | 7 | 55 | 22 | 21 | 44 | 36 | 79 | 13 | 121 | 49 | 165 | 32 |
| 21 | | 8 | 20 | 22 | 56 | 45 | 33 | 80 | 34 | 123 | 17 | 166 | 59 |
| 22 | | 8 | 45 | 23 | 31 | 46 | 31 | 81 | 55 | 124 | 45 | 168 | 26 |
| 23 | | 9 | 10 | 24 | 7 | 47 | 30 | 83 | 16 | 126 | 13 | 169 | 53 |
| 24 | | 9 | 36 | 24 | 43 | 48 | 29 | 84 | 38 | 127 | 41 | 171 | 20 |
| 25 | | 10 | 2 | 25 | 20 | 49 | 29 | 86 | 0 | 129 | 8 | 172 | 46 |
| 26 | | 10 | 28 | 25 | 58 | 50 | 30 | 87 | 22 | 130 | 36 | 174 | 13 |
| 27 | | 10 | 54 | 26 | 36 | 51 | 32 | 88 | 45 | 132 | 4 | 175 | 40 |
| 28 | | 11 | 20 | 27 | 15 | 52 | 35 | 90 | 9 | 133 | 31 | 177 | 7 |
| 29 | | 11 | 47 | 27 | 54 | 53 | 40 | 91 | 33 | 134 | 59 | 178 | 34 |
| 30 | | 12 | 14 | 28 | 34 | 54 | 46 | 92 | 58 | 136 | 26 | 180 | 0 |

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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 223 | 34 | 267 | 2 | 305 | 14 | 331 | 26 | 347 | 46 |
| 1 | 181 | 26 | 225 | 1 | 268 | 27 | 306 | 20 | 332 | 6 | 348 | 13 |
| 2 | 182 | 52 | 226 | 29 | 269 | 51 | 307 | 25 | 332 | 45 | 348 | 40 |
| 3 | 184 | 20 | 227 | 56 | 271 | 15 | 308 | 28 | 333 | 24 | 349 | 6 |
| 4 | 185 | 47 | 229 | 24 | 272 | 38 | 309 | 30 | 334 | 2 | 349 | 32 |
| 5 | 187 | 14 | 230 | 52 | 274 | 0 | 310 | 31 | 334 | 40 | 349 | 58 |
| 6 | 188 | 40 | 232 | 19 | 275 | 22 | 311 | 31 | 335 | 17 | 350 | 24 |
| 7 | 190 | 7 | 233 | 47 | 276 | 44 | 312 | 30 | 335 | 53 | 350 | 50 |
| 8 | 191 | 34 | 235 | 15 | 278 | 5 | 313 | 29 | 336 | 29 | 351 | 15 |
| 9 | 193 | 1 | 236 | 43 | 279 | 26 | 314 | 27 | 337 | 4 | 351 | 40 |
| 10 | 194 | 28 | 238 | 11 | 280 | 47 | 315 | 24 | 337 | 39 | 352 | 5 |
| 11 | 196 | 55 | 239 | 39 | 282 | 7 | 316 | 21 | 338 | 13 | 352 | 30 |
| 12 | 197 | 22 | 241 | 6 | 283 | 26 | 317 | 16 | 338 | 47 | 352 | 55 |
| 13 | 198 | 49 | 242 | 34 | 284 | 45 | 318 | 10 | 339 | 20 | 353 | 19 |
| 14 | 100 | 16 | 244 | 1 | 286 | 3 | 319 | 3 | 339 | 53 | 353 | 43 |
| 15 | 201 | 43 | 245 | 28 | 287 | 21 | 319 | 55 | 340 | 26 | 354 | 7 |
| 16 | 203 | 10 | 246 | 56 | 288 | 38 | 320 | 47 | 340 | 58 | 354 | 31 |
| 17 | 204 | 37 | 248 | 24 | 289 | 54 | 321 | 38 | 341 | 29 | 354 | 55 |
| 18 | 206 | 4 | 249 | 51 | 291 | 9 | 322 | 28 | 342 | 0 | 355 | 19 |
| 19 | 207 | 31 | 251 | 18 | 292 | 24 | 323 | 17 | 342 | 31 | 355 | 43 |
| 20 | 208 | 59 | 252 | 45 | 293 | 38 | 324 | 5 | 343 | 1 | 356 | 6 |
| 21 | 210 | 26 | 254 | 12 | 294 | 51 | 324 | 52 | 343 | 31 | 356 | 30 |
| 22 | 211 | 53 | 255 | 38 | 296 | 4 | 325 | 38 | 344 | 1 | 356 | 54 |
| 23 | 213 | 21 | 257 | 4 | 297 | 16 | 326 | 24 | 344 | 30 | 357 | 17 |
| 24 | 214 | 48 | 258 | 30 | 298 | 27 | 327 | 9 | 344 | 59 | 357 | 41 |
| 25 | 216 | 16 | 259 | 56 | 299 | 37 | 327 | 54 | 345 | 28 | 358 | 4 |
| 26 | 217 | 43 | 261 | 22 | 300 | 46 | 328 | 38 | 345 | 56 | 358 | 28 |
| 27 | 219 | 11 | 262 | 47 | 301 | 54 | 329 | 21 | 346 | 24 | 358 | 51 |
| 28 | 220 | 38 | 264 | 12 | 303 | 1 | 330 | 3 | 346 | 52 | 359 | 14 |
| 29 | 222 | 6 | 265 | 37 | 304 | 8 | 330 | 45 | 347 | 19 | 359 | 37 |
| 30 | 223 | 34 | 267 | 2 | 305 | 14 | 331 | 26 | 347 | 46 | 360 | 0 |

| G | ♈ g. | ♈ m. | ♉ g. | ♉ m. | ♊ g. | ♊ m. | ♋ g. | ♋ m. | ♌ g. | ♌ m. | ♍ g. | ♍ m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 11 | 38 | 27 | 22 | 53 | 14 | 91 | 46 | 135 | 50 |
| 1 | 0 | 22 | 12 | 4 | 28 | 2 | 54 | 21 | 93 | 12 | 137 | 19 |
| 2 | 0 | 44 | 12 | 30 | 38 | 43 | 55 | 28 | 94 | 38 | 138 | 48 |
| 3 | 1 | 6 | 12 | 56 | 29 | 24 | 56 | 36 | 96 | 4 | 140 | 17 |
| 4 | 1 | 28 | 13 | 23 | 30 | 6 | 57 | 44 | 97 | 31 | 141 | 46 |
| 5 | 1 | 50 | 13 | 50 | 30 | 49 | 58 | 53 | 98 | 58 | 143 | 14 |
| 6 | 2 | 12 | 14 | 18 | 31 | 32 | 60 | 3 | 100 | 25 | 144 | 43 |
| 7 | 2 | 34 | 14 | 46 | 32 | 16 | 61 | 14 | 101 | 52 | 146 | 12 |
| 8 | 2 | 57 | 15 | 14 | 33 | 1 | 62 | 26 | 103 | 19 | 147 | 41 |
| 9 | 3 | 19 | 15 | 42 | 33 | 47 | 63 | 39 | 104 | 47 | 149 | 10 |
| 10 | 3 | 42 | 16 | 11 | 34 | 33 | 64 | 53 | 106 | 15 | 150 | 38 |
| 11 | 4 | 4 | 16 | 40 | 35 | 20 | 66 | 8 | 107 | 43 | 152 | 7 |
| 12 | 4 | 27 | 17 | 9 | 36 | 8 | 67 | 23 | 109 | 11 | 153 | 35 |
| 13 | 4 | 49 | 17 | 38 | 36 | 57 | 68 | 39 | 110 | 40 | 155 | 3 |
| 14 | 5 | 12 | 18 | 8 | 37 | 48 | 69 | 56 | 112 | 8 | 156 | 31 |
| 15 | 5 | 35 | 18 | 39 | 38 | 39 | 71 | 13 | 113 | 37 | 157 | 59 |
| 16 | 5 | 58 | 19 | 11 | 39 | 31 | 72 | 31 | 115 | 5 | 159 | 28 |
| 17 | 6 | 21 | 19 | 43 | 40 | 24 | 73 | 50 | 116 | 34 | 160 | 56 |
| 18 | 6 | 41 | 20 | 15 | 41 | 18 | 75 | 10 | 118 | 3 | 162 | 24 |
| 19 | 7 | 8 | 20 | 48 | 42 | 12 | 76 | 30 | 119 | 32 | 163 | 52 |
| 20 | 7 | 32 | 21 | 21 | 43 | 7 | 77 | 51 | 121 | 1 | 165 | 20 |
| 21 | 7 | 56 | 21 | 54 | 44 | 3 | 79 | 13 | 122 | 30 | 166 | 48 |
| 22 | 8 | 20 | 22 | 28 | 45 | 0 | 80 | 35 | 123 | 59 | 168 | 16 |
| 23 | 8 | 44 | 23 | 3 | 45 | 58 | 81 | 57 | 125 | 28 | 169 | 44 |
| 24 | 9 | 8 | 23 | 38 | 46 | 58 | 83 | 20 | 126 | 57 | 171 | 12 |
| 25 | 9 | 32 | 24 | 14 | 47 | 59 | 84 | 43 | 128 | 26 | 172 | 40 |
| 26 | 9 | 57 | 24 | 50 | 49 | 0 | 86 | 6 | 129 | 55 | 174 | 8 |
| 27 | 10 | 22 | 25 | 27 | 50 | 2 | 87 | 30 | 131 | 24 | 175 | 36 |
| 28 | 10 | 47 | 26 | 5 | 51 | 5 | 88 | 55 | 132 | 53 | 177 | 4 |
| 29 | 11 | 12 | 26 | 43 | 52 | 9 | 90 | 20 | 134 | 22 | 178 | 32 |
| 30 | 11 | 38 | 27 | 22 | 53 | 14 | 91 | 46 | 135 | 50 | 180 | 0 |

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| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 224 | 10 | 268 | 14 | 306 | 46 | 332 | 38 | 348 | 22 |
| 1 | 181 | 28 | 225 | 38 | 269 | 40 | 307 | 51 | 333 | 17 | 348 | 48 |
| 2 | 182 | 56 | 227 | 7 | 271 | 5 | 308 | 55 | 333 | 55 | 349 | 13 |
| 3 | 184 | 24 | 228 | 36 | 272 | 30 | 309 | 58 | 334 | 33 | 349 | 38 |
| 4 | 185 | 52 | 230 | 5 | 273 | 54 | 311 | 0 | 335 | 10 | 350 | 3 |
| 5 | 187 | 20 | 231 | 34 | 275 | 17 | 312 | 1 | 335 | 46 | 350 | 28 |
| 6 | 188 | 48 | 233 | 3 | 276 | 40 | 313 | 2 | 336 | 22 | 350 | 52 |
| 7 | 190 | 16 | 234 | 32 | 278 | 3 | 314 | 2 | 336 | 57 | 351 | 16 |
| 8 | 191 | 44 | 236 | 1 | 279 | 25 | 315 | 0 | 337 | 32 | 351 | 40 |
| 9 | 193 | 12 | 237 | 30 | 280 | 47 | 315 | 57 | 338 | 6 | 352 | 4 |
| 10 | 194 | 40 | 238 | 59 | 282 | 9 | 316 | 53 | 338 | 39 | 352 | 28 |
| 11 | 196 | 8 | 240 | 28 | 283 | 30 | 317 | 48 | 339 | 12 | 352 | 52 |
| 12 | 197 | 36 | 241 | 57 | 284 | 50 | 318 | 42 | 339 | 45 | 353 | 16 |
| 13 | 199 | 4 | 243 | 26 | 286 | 10 | 319 | 36 | 340 | 17 | 353 | 39 |
| 14 | 200 | 32 | 244 | 55 | 287 | 29 | 320 | 29 | 340 | 49 | 354 | 2 |
| 15 | 202 | 1 | 246 | 23 | 288 | 47 | 321 | 21 | 341 | 21 | 354 | 25 |
| 16 | 203 | 29 | 247 | 52 | 290 | 4 | 322 | 12 | 341 | 52 | 354 | 48 |
| 17 | 204 | 57 | 249 | 20 | 291 | 21 | 323 | 3 | 342 | 22 | 355 | 11 |
| 18 | 206 | 25 | 250 | 49 | 292 | 37 | 323 | 52 | 342 | 51 | 355 | 33 |
| 19 | 207 | 53 | 252 | 17 | 293 | 52 | 324 | 40 | 343 | 20 | 355 | 56 |
| 20 | 209 | 22 | 253 | 45 | 295 | 7 | 325 | 27 | 343 | 49 | 356 | 18 |
| 21 | 210 | 50 | 255 | 13 | 296 | 21 | 326 | 13 | 344 | 18 | 356 | 41 |
| 22 | 212 | 19 | 256 | 41 | 297 | 34 | 326 | 59 | 344 | 46 | 357 | 3 |
| 23 | 213 | 48 | 258 | 8 | 298 | 46 | 327 | 44 | 345 | 14 | 357 | 26 |
| 24 | 215 | 17 | 259 | 35 | 299 | 57 | 328 | 28 | 345 | 42 | 357 | 48 |
| 25 | 216 | 46 | 261 | 2 | 301 | 7 | 329 | 11 | 346 | 10 | 358 | 10 |
| 26 | 218 | 14 | 262 | 29 | 302 | 16 | 329 | 54 | 346 | 37 | 358 | 32 |
| 27 | 219 | 43 | 263 | 56 | 303 | 24 | 330 | 36 | 347 | 4 | 358 | 54 |
| 28 | 221 | 12 | 265 | 22 | 304 | 32 | 331 | 17 | 347 | 30 | 359 | 16 |
| 29 | 222 | 41 | 266 | 48 | 305 | 39 | 331 | 58 | 347 | 56 | 359 | 38 |
| 30 | 224 | 10 | 268 | 14 | 306 | 46 | 332 | 38 | 348 | 22 | 360 | 0 |

| G | ♈ g. | m. | ♉ g. | m. | ♊ g. | m. | ♋ g. | m. | ♌ g. | m. | ♍ g. | m. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 11 | 1 | 26 | 6 | 51 | 37 | 90 | 30 | 135 | 13 |
| 1 | 0 | 20 | 11 | 25 | 26 | 44 | 52 | 42 | 91 | 57 | 136 | 43 |
| 2 | 0 | 41 | 11 | 50 | 27 | 23 | 53 | 49 | 93 | 24 | 138 | 13 |
| 3 | 1 | 2 | 12 | 15 | 28 | 3 | 54 | 57 | 94 | 52 | 139 | 43 |
| 4 | 1 | 23 | 12 | 40 | 28 | 44 | 56 | 6 | 96 | 20 | 141 | 13 |
| 5 | 1 | 44 | 13 | 6 | 29 | 26 | 57 | 16 | 97 | 48 | 142 | 43 |
| 6 | 2 | 5 | 13 | 32 | 30 | 8 | 58 | 27 | 99 | 16 | 144 | 13 |
| 7 | 2 | 26 | 13 | 59 | 30 | 51 | 59 | 39 | 100 | 44 | 145 | 43 |
| 8 | 2 | 47 | 14 | 26 | 31 | 35 | 60 | 52 | 102 | 13 | 147 | 13 |
| 9 | 3 | 8 | 14 | 53 | 32 | 20 | 62 | 5 | 103 | 42 | 148 | 43 |
| 10 | 3 | 30 | 15 | 20 | 33 | 6 | 63 | 19 | 105 | 11 | 150 | 13 |
| 11 | 3 | 51 | 15 | 48 | 33 | 53 | 64 | 34 | 106 | 40 | 151 | 42 |
| 12 | 4 | 12 | 16 | 16 | 34 | 41 | 65 | 50 | 108 | 10 | 153 | 12 |
| 13 | 4 | 34 | 16 | 44 | 35 | 29 | 67 | 7 | 109 | 40 | 154 | 42 |
| 14 | 4 | 55 | 17 | 13 | 36 | 18 | 68 | 24 | 111 | 10 | 156 | 11 |
| 15 | 5 | 17 | 17 | 42 | 37 | 8 | 69 | 42 | 112 | 40 | 157 | 41 |
| 16 | 5 | 39 | 18 | 12 | 37 | 59 | 71 | 1 | 114 | 10 | 159 | 11 |
| 17 | 6 | 1 | 18 | 43 | 38 | 51 | 72 | 21 | 115 | 40 | 160 | 39 |
| 18 | 6 | 23 | 19 | 14 | 39 | 44 | 73 | 41 | 117 | 10 | 162 | 10 |
| 19 | 6 | 45 | 19 | 45 | 40 | 38 | 75 | 2 | 118 | 40 | 163 | 38 |
| 20 | 7 | 7 | 20 | 17 | 41 | 33 | 76 | 24 | 120 | 10 | 165 | 8 |
| 21 | 7 | 29 | 20 | 49 | 42 | 29 | 77 | 46 | 121 | 40 | 166 | 38 |
| 22 | 7 | 52 | 21 | 22 | 43 | 26 | 79 | 8 | 123 | 11 | 168 | 7 |
| 23 | 8 | 15 | 21 | 55 | 44 | 24 | 80 | 31 | 124 | 42 | 169 | 36 |
| 24 | 8 | 38 | 22 | 29 | 45 | 23 | 81 | 55 | 126 | 12 | 171 | 5 |
| 25 | 9 | 1 | 23 | 4 | 46 | 22 | 83 | 20 | 127 | 42 | 172 | 34 |
| 26 | 9 | 25 | 23 | 39 | 47 | 23 | 84 | 45 | 129 | 13 | 174 | 4 |
| 27 | 9 | 49 | 24 | 15 | 48 | 25 | 86 | 11 | 130 | 43 | 175 | 33 |
| 28 | 10 | 13 | 24 | 51 | 49 | 28 | 87 | 37 | 132 | 13 | 177 | 2 |
| 29 | 10 | 37 | 25 | 28 | 50 | 32 | 89 | 3 | 133 | 43 | 178 | 31 |
| 30 | 11 | 1 | 26 | 6 | 51 | 37 | 90 | 30 | 135 | 13 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 224 | 47 | 269 | 30 | 308 | 23 | 333 | 54 | 348 | 59 |
| 1 | 181 | 29 | 226 | 17 | 270 | 57 | 309 | 28 | 334 | 32 | 349 | 23 |
| 2 | 182 | 58 | 227 | 47 | 272 | 23 | 310 | 32 | 335 | 9 | 349 | 47 |
| 3 | 184 | 27 | 229 | 17 | 273 | 49 | 311 | 35 | 335 | 45 | 350 | 11 |
| 4 | 185 | 56 | 230 | 47 | 275 | 15 | 312 | 37 | 336 | 21 | 350 | 35 |
| 5 | 187 | 26 | 232 | 18 | 276 | 40 | 313 | 38 | 336 | 56 | 350 | 59 |
| 6 | 188 | 55 | 233 | 48 | 278 | 5 | 314 | 37 | 337 | 31 | 351 | 22 |
| 7 | 190 | 24 | 235 | 18 | 279 | 29 | 315 | 36 | 338 | 5 | 351 | 45 |
| 8 | 191 | 53 | 236 | 49 | 280 | 52 | 316 | 34 | 338 | 38 | 352 | 8 |
| 9 | 193 | 22 | 238 | 20 | 282 | 14 | 317 | 31 | 339 | 11 | 352 | 31 |
| 10 | 194 | 52 | 239 | 50 | 283 | 36 | 318 | 27 | 339 | 43 | 352 | 53 |
| 11 | 196 | 22 | 241 | 20 | 284 | 58 | 319 | 22 | 340 | 15 | 353 | 15 |
| 12 | 197 | 50 | 242 | 50 | 286 | 19 | 320 | 16 | 340 | 46 | 353 | 37 |
| 13 | 199 | 21 | 244 | 20 | 287 | 39 | 321 | 9 | 341 | 17 | 353 | 59 |
| 14 | 200 | 49 | 245 | 50 | 288 | 59 | 322 | 1 | 341 | 48 | 354 | 21 |
| 15 | 202 | 19 | 247 | 20 | 290 | 18 | 322 | 52 | 342 | 18 | 354 | 43 |
| 16 | 203 | 49 | 248 | 50 | 291 | 36 | 323 | 42 | 342 | 47 | 355 | 5 |
| 17 | 205 | 18 | 250 | 20 | 292 | 53 | 324 | 31 | 343 | 16 | 355 | 26 |
| 18 | 206 | 48 | 251 | 50 | 294 | 10 | 325 | 19 | 343 | 44 | 355 | 48 |
| 19 | 208 | 18 | 253 | 20 | 295 | 26 | 326 | 7 | 344 | 12 | 356 | 9 |
| 20 | 209 | 47 | 254 | 49 | 296 | 41 | 326 | 54 | 344 | 40 | 356 | 30 |
| 21 | 211 | 17 | 256 | 18 | 297 | 55 | 327 | 40 | 345 | 7 | 356 | 52 |
| 22 | 212 | 47 | 257 | 47 | 299 | 8 | 328 | 25 | 345 | 34 | 357 | 13 |
| 23 | 214 | 17 | 259 | 16 | 300 | 21 | 329 | 9 | 346 | 1 | 357 | 34 |
| 24 | 215 | 47 | 260 | 44 | 301 | 33 | 329 | 52 | 346 | 28 | 357 | 55 |
| 25 | 217 | 17 | 262 | 12 | 302 | 44 | 330 | 34 | 346 | 54 | 358 | 16 |
| 26 | 218 | 47 | 263 | 40 | 303 | 54 | 331 | 16 | 347 | 20 | 358 | 37 |
| 27 | 220 | 17 | 265 | 8 | 305 | 3 | 331 | 57 | 347 | 45 | 358 | 58 |
| 28 | 221 | 47 | 266 | 36 | 306 | 11 | 332 | 37 | 348 | 10 | 359 | 19 |
| 29 | 223 | 17 | 268 | 3 | 307 | 18 | 333 | 16 | 348 | 35 | 359 | 40 |
| 30 | 224 | 47 | 269 | 30 | 308 | 23 | 333 | 54 | 348 | 59 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 10 | 21 | 24 | 44 | 49 | 52 | 89 | 8 | 134 | 33 |
| 1 | | 0 | 19 | 10 | 44 | 25 | 21 | 50 | 58 | 90 | 37 | 136 | 5 |
| 2 | | 0 | 39 | 11 | 7 | 25 | 59 | 52 | 5 | 92 | 6 | 137 | 36 |
| 3 | | 0 | 58 | 11 | 31 | 26 | 38 | 53 | 13 | 93 | 35 | 139 | 8 |
| 4 | | 1 | 18 | 11 | 55 | 27 | 18 | 54 | 22 | 95 | 4 | 140 | 39 |
| 5 | | 1 | 38 | 12 | 19 | 27 | 59 | 55 | 32 | 96 | 33 | 142 | 10 |
| 6 | | 1 | 57 | 12 | 44 | 28 | 40 | 56 | 43 | 98 | 3 | 143 | 42 |
| 7 | | 2 | 17 | 13 | 9 | 29 | 22 | 57 | 55 | 99 | 33 | 145 | 13 |
| 8 | | 2 | 37 | 13 | 34 | 30 | 5 | 59 | 8 | 101 | 3 | 146 | 45 |
| 9 | | 2 | 57 | 14 | 0 | 30 | 48 | 60 | 22 | 102 | 33 | 148 | 16 |
| 10 | | 3 | 17 | 14 | 26 | 31 | 32 | 61 | 37 | 104 | 3 | 149 | 47 |
| 11 | | 3 | 37 | 14 | 52 | 32 | 17 | 62 | 53 | 105 | 34 | 151 | 18 |
| 12 | | 3 | 57 | 15 | 19 | 33 | 3 | 64 | 9 | 107 | 5 | 152 | 49 |
| 13 | | 4 | 17 | 15 | 46 | 33 | 50 | 65 | 26 | 108 | 36 | 154 | 20 |
| 14 | | 4 | 37 | 16 | 13 | 34 | 39 | 66 | 44 | 110 | 7 | 155 | 51 |
| 15 | | 4 | 57 | 16 | 41 | 35 | 29 | 68 | 3 | 111 | 39 | 157 | 21 |
| 16 | | 5 | 17 | 17 | 10 | 36 | 20 | 69 | 23 | 113 | 10 | 158 | 52 |
| 17 | | 5 | 38 | 17 | 39 | 37 | 12 | 70 | 44 | 114 | 41 | 160 | 23 |
| 18 | | 5 | 59 | 18 | 9 | 38 | 4 | 72 | 5 | 116 | 12 | 161 | 54 |
| 19 | | 6 | 20 | 18 | 39 | 38 | 57 | 73 | 27 | 117 | 44 | 163 | 25 |
| 20 | | 6 | 41 | 19 | 9 | 39 | 51 | 74 | 50 | 119 | 16 | 164 | 55 |
| 21 | | 7 | 2 | 19 | 40 | 40 | 46 | 76 | 13 | 120 | 48 | 166 | 26 |
| 22 | | 7 | 23 | 20 | 12 | 41 | 42 | 77 | 37 | 122 | 20 | 167 | 57 |
| 23 | | 7 | 45 | 20 | 44 | 42 | 39 | 79 | 2 | 123 | 52 | 169 | 27 |
| 24 | | 8 | 6 | 21 | 16 | 43 | 38 | 80 | 27 | 125 | 24 | 170 | 58 |
| 25 | | 8 | 28 | 21 | 49 | 44 | 38 | 81 | 53 | 126 | 55 | 172 | 28 |
| 26 | | 8 | 50 | 22 | 22 | 45 | 39 | 83 | 19 | 128 | 27 | 173 | 59 |
| 27 | | 9 | 13 | 22 | 56 | 46 | 41 | 84 | 46 | 129 | 59 | 175 | 29 |
| 28 | | 9 | 35 | 23 | 31 | 47 | 44 | 86 | 13 | 131 | 30 | 177 | 0 |
| 29 | | 9 | 58 | 24 | 7 | 48 | 48 | 87 | 40 | 133 | 2 | 178 | 30 |
| 30 | | 10 | 21 | 24 | 44 | 49 | 52 | 89 | 8 | 134 | 33 | 180 | 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g | m. | g. | m. |
| 0 | 180 | 0 | 225 | 27 | 270 | 52 | 310 | 8 | 335 | 16 | 349 | 39 |
| 1 | 181 | 30 | 226 | 58 | 272 | 20 | 311 | 12 | 335 | 53 | 350 | 2 |
| 2 | 183 | 0 | 228 | 30 | 273 | 47 | 312 | 16 | 336 | 29 | 350 | 25 |
| 3 | 184 | 31 | 230 | 1 | 275 | 14 | 313 | 19 | 337 | 4 | 350 | 47 |
| 4 | 186 | 1 | 231 | 33 | 276 | 41 | 314 | 21 | 337 | 38 | 351 | 10 |
| 5 | 187 | 32 | 233 | 5 | 278 | 7 | 315 | 22 | 338 | 11 | 351 | 32 |
| 6 | 189 | 2 | 234 | 36 | 279 | 33 | 316 | 22 | 338 | 44 | 351 | 54 |
| 7 | 190 | 33 | 236 | 8 | 280 | 58 | 317 | 21 | 339 | 16 | 352 | 15 |
| 8 | 192 | 3 | 237 | 40 | 282 | 23 | 318 | 18 | 339 | 48 | 352 | 37 |
| 9 | 193 | 34 | 239 | 12 | 283 | 47 | 319 | 14 | 340 | 20 | 352 | 58 |
| 10 | 195 | 5 | 240 | 44 | 285 | 10 | 320 | 9 | 340 | 51 | 353 | 19 |
| 11 | 196 | 35 | 242 | 16 | 286 | 33 | 321 | 3 | 341 | 21 | 353 | 40 |
| 12 | 198 | 6 | 243 | 48 | 287 | 55 | 321 | 56 | 341 | 51 | 354 | 1 |
| 13 | 199 | 37 | 245 | 19 | 289 | 16 | 322 | 48 | 342 | 21 | 354 | 22 |
| 14 | 201 | 8 | 246 | 50 | 290 | 37 | 323 | 40 | 342 | 50 | 354 | 43 |
| 15 | 202 | 39 | 248 | 21 | 291 | 57 | 324 | 31 | 343 | 19 | 355 | 3 |
| 16 | 204 | 9 | 249 | 53 | 293 | 16 | 325 | 21 | 343 | 47 | 355 | 23 |
| 17 | 205 | 40 | 251 | 24 | 294 | 34 | 326 | 10 | 344 | 14 | 355 | 43 |
| 18 | 207 | 11 | 252 | 55 | 295 | 51 | 326 | 57 | 344 | 41 | 356 | 3 |
| 19 | 208 | 42 | 254 | 26 | 297 | 7 | 327 | 43 | 345 | 8 | 356 | 23 |
| 20 | 210 | 13 | 255 | 57 | 298 | 23 | 328 | 28 | 345 | 34 | 356 | 43 |
| 21 | 211 | 44 | 257 | 27 | 299 | 38 | 329 | 12 | 346 | 0 | 357 | 3 |
| 22 | 213 | 15 | 258 | 57 | 300 | 52 | 329 | 55 | 346 | 26 | 357 | 23 |
| 23 | 214 | 47 | 260 | 27 | 302 | 5 | 330 | 38 | 346 | 51 | 357 | 43 |
| 24 | 216 | 18 | 261 | 57 | 303 | 17 | 331 | 20 | 347 | 16 | 358 | 3 |
| 25 | 217 | 50 | 263 | 27 | 304 | 28 | 332 | 1 | 347 | 41 | 358 | 22 |
| 26 | 219 | 21 | 264 | 56 | 305 | 38 | 332 | 42 | 348 | 5 | 358 | 42 |
| 27 | 220 | 52 | 266 | 25 | 306 | 47 | 333 | 22 | 348 | 29 | 359 | 2 |
| 28 | 222 | 24 | 267 | 54 | 307 | 55 | 334 | 1 | 348 | 53 | 359 | 21 |
| 29 | 223 | 55 | 269 | 23 | 309 | 2 | 334 | 39 | 349 | 16 | 359 | 41 |
| 30 | 225 | 27 | 270 | 52 | 310 | 8 | 335 | 16 | 349 | 39 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 9 | 39 | 23 | 17 | 47 | 58 | 87 | 41 | 133 | 51 |
| 1 | | 0 | 18 | 10 | 0 | 23 | 53 | 49 | 5 | 89 | 11 | 135 | 24 |
| 2 | | 0 | 36 | 10 | 22 | 24 | 30 | 50 | 12 | 90 | 41 | 136 | 57 |
| 3 | | 0 | 54 | 10 | 44 | 25 | 7 | 51 | 20 | 92 | 11 | 138 | 30 |
| 4 | | 1 | 12 | 11 | 6 | 25 | 45 | 52 | 29 | 93 | 42 | 140 | 3 |
| 5 | | 1 | 31 | 11 | 29 | 26 | 24 | 53 | 39 | 95 | 13 | 141 | 35 |
| 6 | | 1 | 49 | 11 | 52 | 27 | 4 | 54 | 50 | 96 | 44 | 143 | 8 |
| 7 | | 2 | 7 | 12 | 16 | 27 | 45 | 56 | 2 | 98 | 15 | 144 | 41 |
| 8 | | 2 | 26 | 12 | 40 | 28 | 27 | 57 | 15 | 99 | 47 | 146 | 14 |
| 9 | | 2 | 44 | 13 | 4 | 29 | 9 | 58 | 30 | 101 | 19 | 147 | 47 |
| 10 | | 3 | 3 | 13 | 29 | 29 | 52 | 59 | 46 | 102 | 51 | 149 | 19 |
| 11 | | 3 | 21 | 13 | 54 | 30 | 36 | 61 | 3 | 104 | 23 | 150 | 52 |
| 12 | | 3 | 40 | 14 | 19 | 31 | 21 | 62 | 20 | 105 | 56 | 152 | 24 |
| 13 | | 3 | 59 | 14 | 45 | 32 | 7 | 63 | 38 | 107 | 29 | 153 | 57 |
| 14 | | 4 | 18 | 15 | 11 | 32 | 54 | 64 | 57 | 109 | 2 | 155 | 29 |
| 15 | | 4 | 37 | 15 | 37 | 33 | 43 | 66 | 17 | 110 | 35 | 157 | 1 |
| 16 | | 4 | 56 | 16 | 4 | 34 | 33 | 67 | 38 | 112 | 7 | 158 | 33 |
| 17 | | 5 | 15 | 16 | 32 | 35 | 24 | 69 | 0 | 113 | 40 | 160 | 5 |
| 18 | | 5 | 34 | 17 | 0 | 36 | 15 | 70 | 23 | 115 | 13 | 161 | 37 |
| 19 | | 5 | 53 | 17 | 28 | 37 | 7 | 71 | 46 | 116 | 46 | 163 | 9 |
| 20 | | 6 | 13 | 17 | 57 | 38 | 0 | 73 | 10 | 118 | 19 | 164 | 41 |
| 21 | | 6 | 33 | 18 | 26 | 38 | 55 | 74 | 34 | 119 | 52 | 166 | 13 |
| 22 | | 6 | 53 | 18 | 56 | 39 | 51 | 75 | 59 | 121 | 25 | 167 | 45 |
| 23 | | 7 | 13 | 19 | 26 | 40 | 48 | 77 | 25 | 122 | 58 | 169 | 17 |
| 24 | | 7 | 33 | 19 | 57 | 41 | 46 | 78 | 51 | 124 | 31 | 170 | 49 |
| 25 | | 7 | 53 | 20 | 29 | 42 | 45 | 80 | 18 | 126 | 5 | 172 | 21 |
| 26 | | 8 | 14 | 21 | 1 | 43 | 46 | 81 | 46 | 127 | 39 | 173 | 53 |
| 27 | | 8 | 35 | 21 | 34 | 44 | 48 | 83 | 14 | 129 | 12 | 175 | 25 |
| 28 | | 8 | 56 | 22 | 8 | 45 | 51 | 84 | 43 | 130 | 45 | 176 | 57 |
| 29 | | 9 | 17 | 22 | 42 | 46 | 54 | 86 | 12 | 132 | 18 | 178 | 29 |
| 30 | | 9 | 39 | 23 | 17 | 47 | 58 | 87 | 41 | 133 | 51 | 180 | 0 |

| G | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 226 | 9 | 272 | 19 | 312 | 2 | 330 | 43 | 350 | 21 |
| 1 | 181 | 31 | 227 | 42 | 273 | 48 | 313 | 6 | 337 | 18 | 350 | 43 |
| 2 | 183 | 3 | 229 | 15 | 275 | 17 | 314 | 9 | 337 | 52 | 351 | 4 |
| 3 | 184 | 35 | 230 | 48 | 276 | 46 | 315 | 12 | 338 | 26 | 351 | 25 |
| 4 | 186 | 7 | 232 | 21 | 278 | 14 | 316 | 14 | 338 | 59 | 351 | 46 |
| 5 | 187 | 39 | 233 | 55 | 279 | 42 | 317 | 15 | 339 | 31 | 352 | 7 |
| 6 | 189 | 11 | 235 | 29 | 281 | 9 | 318 | 14 | 340 | 3 | 352 | 27 |
| 7 | 190 | 43 | 237 | 2 | 282 | 35 | 319 | 12 | 340 | 34 | 352 | 47 |
| 8 | 192 | 15 | 238 | 35 | 284 | 1 | 320 | 9 | 341 | 4 | 353 | 7 |
| 9 | 193 | 47 | 240 | 8 | 285 | 26 | 321 | 5 | 341 | 34 | 353 | 27 |
| 10 | 195 | 19 | 241 | 41 | 286 | 50 | 322 | 0 | 342 | 3 | 353 | 47 |
| 11 | 196 | 51 | 243 | 14 | 288 | 14 | 322 | 53 | 342 | 32 | 354 | 7 |
| 12 | 198 | 23 | 244 | 47 | 289 | 37 | 323 | 45 | 343 | 0 | 354 | 26 |
| 13 | 199 | 55 | 246 | 20 | 291 | 0 | 324 | 36 | 343 | 28 | 354 | 45 |
| 14 | 201 | 27 | 247 | 53 | 292 | 22 | 325 | 27 | 343 | 56 | 355 | 4 |
| 15 | 202 | 59 | 249 | 25 | 293 | 43 | 326 | 17 | 344 | 23 | 355 | 23 |
| 16 | 204 | 31 | 250 | 58 | 295 | 3 | 327 | 6 | 344 | 49 | 355 | 42 |
| 17 | 206 | 3 | 252 | 31 | 296 | 22 | 327 | 53 | 345 | 15 | 356 | 1 |
| 18 | 207 | 36 | 254 | 4 | 297 | 40 | 328 | 39 | 345 | 41 | 356 | 20 |
| 19 | 209 | 8 | 255 | 37 | 298 | 57 | 329 | 24 | 346 | 6 | 356 | 39 |
| 20 | 210 | 41 | 257 | 9 | 300 | 14 | 330 | 8 | 346 | 31 | 356 | 57 |
| 21 | 212 | 13 | 258 | 41 | 301 | 30 | 330 | 51 | 346 | 56 | 357 | 16 |
| 22 | 213 | 46 | 260 | 13 | 302 | 45 | 331 | 33 | 347 | 20 | 357 | 34 |
| 23 | 215 | 19 | 261 | 45 | 303 | 58 | 332 | 15 | 347 | 44 | 357 | 53 |
| 24 | 216 | 52 | 263 | 16 | 305 | 10 | 332 | 56 | 348 | 8 | 358 | 11 |
| 25 | 218 | 25 | 264 | 47 | 306 | 21 | 333 | 36 | 348 | 31 | 358 | 29 |
| 26 | 219 | 57 | 266 | 18 | 307 | 31 | 334 | 15 | 348 | 54 | 358 | 48 |
| 27 | 221 | 30 | 267 | 49 | 308 | 40 | 334 | 53 | 349 | 16 | 359 | 6 |
| 28 | 223 | 3 | 269 | 19 | 309 | 48 | 335 | 30 | 349 | 38 | 359 | 24 |
| 29 | 224 | 36 | 270 | 49 | 310 | 55 | 336 | 7 | 350 | 0 | 359 | 42 |
| 30 | 226 | 9 | 272 | 19 | 312 | 2 | 336 | 43 | 350 | 21 | 360 | 0 |

| G | ♈ g. m. | ♉ g. m. | ♊ g. m. | ♋ g. m. | ♌ g. m. | ♍ g. m. |
|---|---|---|---|---|---|---|
| 0 | 0 0 | 8 54 | 21 43 | 45 54 | 86 7 | 133 6 |
| 1 | 0 16 | 9 14 | 22 17 | 47 0 | 87 38 | 134 41 |
| 2 | 0 33 | 9 34 | 22 52 | 48 7 | 89 10 | 136 15 |
| 3 | 0 50 | 9 55 | 23 28 | 49 15 | 90 42 | 137 50 |
| 4 | 1 7 | 10 16 | 24 5 | 50 25 | 92 14 | 139 24 |
| 5 | 1 24 | 10 37 | 24 43 | 51 36 | 93 47 | 140 58 |
| 6 | 1 40 | 10 59 | 25 21 | 52 48 | 95 20 | 142 33 |
| 7 | 1 57 | 11 21 | 26 0 | 54 1 | 96 53 | 144 7 |
| 8 | 2 14 | 11 43 | 26 40 | 55 16 | 98 26 | 145 41 |
| 9 | 2 31 | 12 5 | 27 21 | 56 31 | 99 59 | 147 15 |
| 10 | 2 48 | 12 28 | 28 3 | 57 47 | 101 33 | 148 49 |
| 11 | 3 5 | 12 51 | 28 46 | 59 4 | 103 7 | 150 23 |
| 12 | 3 22 | 13 15 | 29 30 | 60 22 | 104 42 | 151 57 |
| 13 | 3 40 | 13 39 | 30 15 | 61 41 | 106 16 | 153 31 |
| 14 | 3 57 | 14 3 | 31 1 | 63 1 | 107 51 | 155 5 |
| 15 | 4 15 | 14 28 | 31 48 | 64 22 | 109 26 | 156 39 |
| 16 | 4 32 | 14 53 | 32 36 | 65 44 | 111 0 | 158 13 |
| 17 | 4 50 | 15 19 | 33 25 | 67 7 | 112 34 | 159 46 |
| 18 | 5 7 | 15 45 | 34 16 | 68 31 | 114 9 | 161 20 |
| 19 | 5 25 | 16 12 | 35 8 | 69 56 | 115 43 | 162 53 |
| 20 | 5 43 | 16 39 | 36 1 | 71 21 | 117 18 | 164 26 |
| 21 | 6 1 | 17 7 | 36 55 | 72 47 | 118 53 | 166 0 |
| 22 | 6 20 | 17 35 | 37 50 | 74 14 | 120 28 | 167 34 |
| 23 | 6 38 | 18 4 | 38 46 | 75 41 | 122 3 | 169 7 |
| 24 | 6 57 | 18 33 | 39 43 | 77 9 | 123 38 | 170 41 |
| 25 | 7 16 | 19 3 | 40 42 | 78 37 | 125 13 | 172 14 |
| 26 | 7 35 | 19 33 | 41 42 | 80 6 | 126 48 | 173 48 |
| 27 | 7 54 | 20 4 | 42 43 | 81 36 | 128 23 | 175 21 |
| 28 | 8 14 | 20 36 | 43 45 | 83 6 | 129 57 | 176 54 |
| 29 | 8 34 | 21 9 | 44 49 | 84 36 | 131 32 | 178 27 |
| 30 | 8 54 | 21 43 | 45 54 | 86 7 | 133 6 | 180 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 226 | 54 | 273 | 53 | 314 | 6 | 338 | 17 | 351 | 6 |
| 1 | 181 | 33 | 228 | 28 | 275 | 24 | 315 | 11 | 338 | 51 | 351 | 26 |
| 2 | 183 | 6 | 230 | 3 | 276 | 54 | 316 | 15 | 339 | 24 | 351 | 46 |
| 3 | 184 | 39 | 231 | 37 | 278 | 24 | 317 | 17 | 339 | 56 | 352 | 6 |
| 4 | 186 | 12 | 233 | 12 | 279 | 54 | 318 | 18 | 340 | 27 | 352 | 25 |
| 5 | 187 | 46 | 234 | 47 | 281 | 23 | 319 | 18 | 340 | 57 | 352 | 44 |
| 6 | 189 | 19 | 236 | 22 | 282 | 51 | 320 | 17 | 341 | 27 | 353 | 3 |
| 7 | 190 | 35 | 237 | 57 | 284 | 19 | 321 | 14 | 341 | 56 | 353 | 22 |
| 8 | 192 | 26 | 239 | 32 | 285 | 46 | 322 | 10 | 342 | 25 | 353 | 40 |
| 9 | 194 | 0 | 241 | 7 | 287 | 13 | 323 | 5 | 342 | 53 | 353 | 59 |
| 10 | 195 | 34 | 242 | 42 | 288 | 39 | 323 | 59 | 343 | 21 | 354 | 17 |
| 11 | 197 | 7 | 244 | 17 | 290 | 4 | 324 | 52 | 343 | 48 | 354 | 35 |
| 12 | 198 | 40 | 245 | 51 | 291 | 29 | 325 | 44 | 344 | 15 | 354 | 53 |
| 13 | 200 | 14 | 247 | 26 | 292 | 53 | 326 | 35 | 344 | 41 | 355 | 10 |
| 14 | 201 | 47 | 249 | 0 | 294 | 16 | 327 | 24 | 345 | 7 | 355 | 28 |
| 15 | 203 | 21 | 250 | 34 | 295 | 38 | 328 | 12 | 345 | 32 | 355 | 45 |
| 16 | 204 | 55 | 252 | 9 | 296 | 59 | 328 | 59 | 345 | 57 | 356 | 3 |
| 17 | 206 | 29 | 253 | 44 | 298 | 19 | 329 | 45 | 346 | 21 | 356 | 20 |
| 18 | 208 | 3 | 255 | 18 | 299 | 38 | 330 | 30 | 346 | 45 | 356 | 38 |
| 19 | 209 | 37 | 256 | 53 | 300 | 56 | 331 | 14 | 347 | 9 | 356 | 55 |
| 20 | 211 | 11 | 258 | 27 | 302 | 13 | 331 | 57 | 347 | 32 | 357 | 12 |
| 21 | 212 | 45 | 260 | 1 | 303 | 29 | 332 | 39 | 347 | 55 | 357 | 29 |
| 22 | 214 | 19 | 261 | 34 | 304 | 44 | 333 | 20 | 348 | 17 | 357 | 46 |
| 23 | 215 | 53 | 263 | 7 | 305 | 59 | 334 | 0 | 348 | 39 | 358 | 3 |
| 24 | 217 | 27 | 264 | 40 | 307 | 12 | 334 | 39 | 349 | 1 | 358 | 20 |
| 25 | 219 | 2 | 266 | 13 | 308 | 24 | 335 | 17 | 349 | 23 | 358 | 36 |
| 26 | 220 | 36 | 267 | 46 | 309 | 35 | 335 | 55 | 349 | 44 | 358 | 53 |
| 27 | 222 | 10 | 269 | 18 | 310 | 45 | 336 | 32 | 350 | 5 | 359 | 10 |
| 28 | 223 | 45 | 270 | 50 | 311 | 53 | 337 | 8 | 350 | 26 | 359 | 27 |
| 29 | 225 | 19 | 272 | 22 | 313 | 0 | 337 | 43 | 350 | 46 | 359 | 44 |
| 30 | 226 | 54 | 273 | 53 | 314 | 6 | 338 | 17 | 351 | 6 | 360 | 0 |

| | ♈ | ♉ | ♊ | ♋ | ♌ | ♍ |
|---|---|---|---|---|---|---|
| G | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. |
| 0 | 0 0 | 8 6 | 20 2 | 43 39 | 84 26 | 132 18 |
| 1 | 0 15 | 8 25 | 20 34 | 44 45 | 85 59 | 133 55 |
| 2 | 0 30 | 8 44 | 21 7 | 45 52 | 87 33 | 135 31 |
| 3 | 0 45 | 9 3 | 21 41 | 47 1 | 89 7 | 137 7 |
| 4 | 1 0 | 9 22 | 22 16 | 48 11 | 90 41 | 138 43 |
| 5 | 1 16 | 9 41 | 22 53 | 49 22 | 92 15 | 140 19 |
| 6 | 1 31 | 10 1 | 23 30 | 50 34 | 93 50 | 141 55 |
| 7 | 1 46 | 10 21 | 24 8 | 51 48 | 95 25 | 143 31 |
| 8 | 2 2 | 10 42 | 24 46 | 53 3 | 97 0 | 145 7 |
| 9 | 2 17 | 11 3 | 25 25 | 54 19 | 98 35 | 146 43 |
| 10 | 2 33 | 11 24 | 26 5 | 55 36 | 100 11 | 148 18 |
| 11 | 2 48 | 11 45 | 26 46 | 56 54 | 101 47 | 149 54 |
| 12 | 3 4 | 12 7 | 27 28 | 58 13 | 103 23 | 151 29 |
| 13 | 3 19 | 12 29 | 28 12 | 59 33 | 104 59 | 153 5 |
| 14 | 3 35 | 12 51 | 28 57 | 60 54 | 106 35 | 154 40 |
| 15 | 3 51 | 13 14 | 29 43 | 62 17 | 108 12 | 156 15 |
| 16 | 4 7 | 13 38 | 30 30 | 63 41 | 109 48 | 157 51 |
| 17 | 4 23 | 14 2 | 31 18 | 65 5 | 111 24 | 159 26 |
| 18 | 4 39 | 14 27 | 32 7 | 66 30 | 113 1 | 161 1 |
| 19 | 4 55 | 14 52 | 32 58 | 67 56 | 114 37 | 162 36 |
| 20 | 5 12 | 15 17 | 33 50 | 69 23 | 116 14 | 164 11 |
| 21 | 5 29 | 15 43 | 34 43 | 70 51 | 117 50 | 165 46 |
| 22 | 5 46 | 16 9 | 35 37 | 72 19 | 119 27 | 167 21 |
| 23 | 6 3 | 16 36 | 36 33 | 73 48 | 121 4 | 168 56 |
| 24 | 6 20 | 17 3 | 37 30 | 75 17 | 122 41 | 170 31 |
| 25 | 6 37 | 17 31 | 38 28 | 76 47 | 124 17 | 172 6 |
| 26 | 6 54 | 18 0 | 39 28 | 78 18 | 125 54 | 173 41 |
| 27 | 7 12 | 18 30 | 40 29 | 79 49 | 127 30 | 175 16 |
| 28 | 7 30 | 19 0 | 41 31 | 81 21 | 129 6 | 176 51 |
| 29 | 7 48 | 19 31 | 42 34 | 82 53 | 130 42 | 178 26 |
| 30 | 8 6 | 20 2 | 43 39 | 84 26 | 132 18 | 180 0 |

| | ♎ | | ♏ | | ♐ | | ♑ | | ♒ | | ♓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | 180 | 0 | 227 | 42 | 275 | 34 | 316 | 21 | 339 | 58 | 351 | 54 |
| 1 | 181 | 34 | 229 | 18 | 277 | 7 | 317 | 26 | 340 | 29 | 352 | 12 |
| 2 | 183 | 9 | 230 | 54 | 278 | 39 | 318 | 29 | 341 | 0 | 352 | 30 |
| 3 | 184 | 44 | 232 | 30 | 280 | 11 | 319 | 31 | 341 | 30 | 352 | 48 |
| 4 | 186 | 19 | 234 | 6 | 281 | 42 | 320 | 32 | 342 | 0 | 353 | 6 |
| 5 | 187 | 54 | 235 | 43 | 283 | 13 | 321 | 32 | 342 | 29 | 353 | 23 |
| 6 | 189 | 29 | 237 | 19 | 284 | 43 | 322 | 30 | 342 | 57 | 353 | 40 |
| 7 | 191 | 4 | 238 | 56 | 286 | 12 | 323 | 27 | 343 | 24 | 353 | 57 |
| 8 | 192 | 39 | 240 | 33 | 287 | 41 | 324 | 23 | 343 | 51 | 354 | 14 |
| 9 | 194 | 14 | 242 | 10 | 289 | 9 | 325 | 17 | 344 | 17 | 354 | 31 |
| 10 | 195 | 49 | 243 | 46 | 290 | 37 | 326 | 10 | 344 | 43 | 354 | 48 |
| 11 | 197 | 24 | 245 | 23 | 292 | 4 | 327 | 2 | 345 | 8 | 355 | 5 |
| 12 | 198 | 59 | 246 | 59 | 293 | 30 | 327 | 53 | 345 | 33 | 355 | 21 |
| 13 | 200 | 34 | 248 | 36 | 294 | 55 | 328 | 42 | 345 | 58 | 355 | 37 |
| 14 | 202 | 9 | 250 | 12 | 296 | 19 | 329 | 30 | 346 | 22 | 355 | 53 |
| 15 | 203 | 45 | 251 | 48 | 297 | 43 | 330 | 17 | 346 | 46 | 356 | 9 |
| 16 | 205 | 20 | 253 | 25 | 299 | 6 | 331 | 3 | 347 | 9 | 356 | 25 |
| 17 | 206 | 55 | 255 | 1 | 300 | 27 | 331 | 48 | 347 | 31 | 356 | 41 |
| 18 | 208 | 31 | 256 | 37 | 301 | 47 | 332 | 32 | 347 | 53 | 356 | 56 |
| 19 | 210 | 6 | 258 | 13 | 303 | 6 | 333 | 14 | 348 | 15 | 357 | 12 |
| 20 | 211 | 42 | 259 | 49 | 304 | 24 | 333 | 55 | 348 | 36 | 357 | 72 |
| 21 | 213 | 17 | 261 | 25 | 305 | 41 | 334 | 35 | 348 | 57 | 357 | 43 |
| 22 | 214 | 53 | 263 | 0 | 306 | 57 | 335 | 14 | 349 | 18 | 357 | 58 |
| 23 | 216 | 29 | 264 | 35 | 308 | 12 | 335 | 52 | 349 | 39 | 358 | 14 |
| 24 | 218 | 5 | 266 | 10 | 309 | 26 | 336 | 30 | 349 | 59 | 358 | 29 |
| 25 | 219 | 41 | 267 | 45 | 310 | 38 | 337 | 7 | 350 | 19 | 358 | 44 |
| 26 | 221 | 17 | 269 | 19 | 311 | 49 | 337 | 44 | 350 | 38 | 359 | 0 |
| 27 | 222 | 53 | 270 | 53 | 312 | 59 | 338 | 19 | 350 | 57 | 359 | 15 |
| 28 | 224 | 29 | 272 | 27 | 314 | 8 | 338 | 53 | 351 | 16 | 359 | 20 |
| 29 | 226 | 5 | 274 | 1 | 315 | 15 | 339 | 26 | 351 | 35 | 359 | 45 |
| 30 | 227 | 42 | 275 | 34 | 316 | 21 | 339 | 58 | 351 | 54 | 360 | 0 |

| | | ♈ | | ♉ | | ♊ | | ♋ | | ♌ | | ♍ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. | g. | m. |
| 0 | | 0 | 0 | 7 | 16 | 18 | 12 | 41 | 8 | 82 | 36 | 131 | 28 |
| 1 | | 0 | 13 | 7 | 33 | 18 | 42 | 42 | 14 | 84 | 11 | 133 | 6 |
| 2 | | 0 | 27 | 7 | 50 | 19 | 13 | 43 | 22 | 85 | 47 | 134 | 44 |
| 3 | | 0 | 40 | 8 | 7 | 19 | 45 | 44 | 31 | 87 | 23 | 136 | 22 |
| 4 | | 0 | 54 | 8 | 24 | 20 | 18 | 45 | 41 | 88 | 59 | 138 | 0 |
| 5 | | 1 | 8 | 8 | 41 | 20 | 53 | 46 | 53 | 90 | 36 | 139 | 37 |
| 6 | | 1 | 21 | 8 | 59 | 21 | 28 | 48 | 6 | 92 | 13 | 141 | 15 |
| 7 | | 1 | 35 | 9 | 17 | 22 | 4 | 49 | 20 | 93 | 50 | 142 | 53 |
| 8 | | 1 | 49 | 9 | 36 | 22 | 40 | 50 | 36 | 95 | 27 | 144 | 30 |
| 9 | | 2 | 3 | 9 | 55 | 23 | 17 | 51 | 53 | 97 | 4 | 146 | 8 |
| 10 | | 2 | 17 | 10 | 15 | 23 | 55 | 53 | 11 | 98 | 42 | 147 | 45 |
| 11 | | 2 | 31 | 10 | 35 | 24 | 35 | 54 | 30 | 100 | 20 | 149 | 23 |
| 12 | | 2 | 45 | 10 | 55 | 25 | 16 | 55 | 50 | 101 | 58 | 151 | 0 |
| 13 | | 2 | 59 | 11 | 15 | 25 | 58 | 57 | 12 | 103 | 36 | 152 | 37 |
| 14 | | 3 | 13 | 11 | 35 | 26 | 41 | 58 | 35 | 105 | 14 | 154 | 14 |
| 15 | | 3 | 27 | 11 | 55 | 27 | 25 | 59 | 59 | 106 | 53 | 155 | 51 |
| 16 | | 3 | 41 | 12 | 16 | 28 | 10 | 61 | 24 | 108 | 31 | 157 | 28 |
| 17 | | 3 | 55 | 12 | 38 | 28 | 57 | 62 | 50 | 110 | 9 | 159 | 5 |
| 18 | | 4 | 10 | 13 | 1 | 29 | 45 | 64 | 17 | 111 | 47 | 160 | 42 |
| 19 | | 4 | 24 | 13 | 24 | 30 | 34 | 65 | 45 | 113 | 26 | 162 | 19 |
| 20 | | 4 | 39 | 13 | 48 | 31 | 25 | 67 | 13 | 115 | 5 | 163 | 55 |
| 21 | | 4 | 54 | 14 | 12 | 32 | 17 | 68 | 42 | 116 | 44 | 165 | 32 |
| 22 | | 5 | 9 | 14 | 36 | 33 | 10 | 70 | 12 | 118 | 23 | 167 | 9 |
| 23 | | 5 | 24 | 15 | 1 | 34 | 5 | 71 | 43 | 120 | 1 | 168 | 45 |
| 24 | | 5 | 39 | 15 | 26 | 35 | 1 | 73 | 15 | 121 | 39 | 170 | 22 |
| 25 | | 5 | 55 | 15 | 52 | 35 | 59 | 74 | 47 | 123 | 17 | 171 | 58 |
| 26 | | 6 | 11 | 16 | 19 | 36 | 58 | 76 | 20 | 124 | 56 | 173 | 35 |
| 27 | | 6 | 27 | 16 | 47 | 37 | 58 | 77 | 53 | 126 | 34 | 175 | 11 |
| 28 | | 6 | 43 | 17 | 15 | 39 | 0 | 79 | 27 | 128 | 12 | 176 | 48 |
| 29 | | 6 | 59 | 17 | 43 | 40 | 3 | 81 | 1 | 129 | 50 | 178 | 24 |
| 30 | | 7 | 16 | 18 | 12 | 41 | 8 | 82 | 36 | 131 | 28 | 180 | 0 |

| · | ♎ | ♏ | ♐ | ♑ | ♒ | ♓ |
|---|---|---|---|---|---|---|
| G | g. m. | g. m. | g. m. | g. m. | g. m. | g. m. |
| 0 | 180 0 | 228 32 | 277 24 | 318 52 | 341 48 | 352 44 |
| 1 | 181 36 | 230 10 | 278 59 | 319 57 | 342 17 | 353 1 |
| 2 | 183 12 | 231 48 | 280 33 | 321 0 | 342 45 | 353 17 |
| 3 | 184 49 | 233 26 | 282 7 | 322 2 | 343 13 | 353 33 |
| 4 | 186 25 | 235 4 | 283 40 | 323 2 | 343 41 | 353 49 |
| 5 | 188 2 | 236 43 | 285 13 | 324 1 | 344 8 | 354 5 |
| 6 | 189 38 | 238 21 | 286 45 | 324 59 | 344 34 | 354 21 |
| 7 | 191 15 | 239 59 | 288 17 | 325 55 | 344 59 | 354 36 |
| 8 | 192 51 | 241 37 | 289 48 | 326 50 | 345 23 | 354 51 |
| 9 | 194 28 | 243 16 | 291 18 | 327 43 | 345 48 | 355 6 |
| 10 | 196 5 | 244 55 | 292 47 | 328 35 | 346 12 | 355 21 |
| 11 | 197 41 | 246 34 | 294 15 | 329 26 | 346 36 | 355 36 |
| 12 | 199 18 | 248 13 | 295 43 | 330 15 | 346 59 | 355 50 |
| 13 | 200 55 | 249 51 | 297 10 | 331 3 | 347 22 | 356 5 |
| 14 | 202 32 | 251 29 | 298 36 | 331 50 | 347 44 | 356 19 |
| 15 | 204 9 | 253 7 | 300 1 | 332 35 | 348 5 | 356 33 |
| 16 | 205 46 | 254 46 | 301 25 | 333 19 | 348 25 | 356 47 |
| 17 | 207 23 | 256 24 | 302 48 | 334 2 | 348 45 | 357 1 |
| 18 | 209 0 | 258 2 | 304 10 | 334 44 | 349 5 | 357 15 |
| 19 | 210 37 | 259 40 | 305 30 | 335 25 | 349 25 | 357 29 |
| 20 | 212 15 | 261 18 | 306 49 | 336 5 | 349 45 | 357 43 |
| 21 | 213 52 | 262 56 | 308 7 | 336 43 | 350 5 | 357 57 |
| 22 | 215 30 | 264 33 | 309 24 | 337 20 | 350 24 | 358 11 |
| 23 | 217 7 | 266 10 | 310 40 | 337 56 | 350 43 | 358 25 |
| 24 | 218 45 | 267 47 | 311 54 | 338 32 | 351 1 | 358 39 |
| 25 | 220 23 | 269 24 | 313 7 | 339 7 | 351 19 | 358 52 |
| 26 | 222 0 | 271 1 | 314 19 | 339 42 | 351 36 | 359 6 |
| 27 | 223 38 | 272 37 | 315 29 | 340 15 | 351 53 | 359 20 |
| 28 | 225 16 | 274 13 | 316 38 | 340 47 | 352 10 | 359 33 |
| 29 | 226 54 | 275 49 | 317 46 | 341 18 | 352 27 | 359 47 |
| 30 | 228 32 | 277 24 | 318 52 | 341 48 | 352 44 | 360 0 |

FINIS.

## Caput VI.

1. Diem ortus & occaſus Coſmici Acronici in quavis ſtella, ad quamlibet poli elevationem, hoc noſtro ſeculo explorare.

*Poetæ, hiſtorici, & rei ruſticæ ſcriptores certa anni tempora per iſtiuſmodi ortus & occaſus definiverunt, quibus deinceps varias actiones & operationes, res geſtas, variaſq; aeris conſtitutiones deſignare voluerunt, eſtque autem triplex apud ipſos ortuum & occaſuum differentia*: Coſmicus, Acronicus, & Heliacus. *Priores duo ad orientem & occidentem ſolem referuntur. Vnde & in horizonte conſiderantur. Ortus denique & occaſus Heliacus juxta ſolem, & ſecundum viſum noſtrum decernuntur.* Ortus coſmicus eſt, quando ſtella vna cum ſole; vel paulo poſt, exoritur: *hoc eſt, quando ſtella manè oritur, unde &* matutinus ortus *dicitur.*

Occaſus coſmicus eſt, quando ſtella infra horizontem occidit, ſole ex adverſo

oriente: *hoc eſt, quando ſtella mane occidit. Vnde* & occaſus matutinus *vocatur.*

Ortus acronicus[*qui etiam veſpertinus*] dicitur; quando ſtella ſupra horizontem aſſurgit, ſole occidente: *hoc eſt, quando ſtella veſperi oritur.* Occaſus acronicus, quando ſtella una cum ſole infra horizontem deſcendit, *hoc eſt, quando veſperi occidit.*

*Horum igitur inventio & conſideratio dependet ex cognitione gradus eclipticæ, qui cum propoſita ſtella ad horizontem aſcendit vel deſcendit. Iſto enim gradu eclipticæ cognito, non ignorabitur, quo anni tempore ſtella ipſa Coſmice vel Acronice oriatur et occidat. In notitiam illius gradus perducent nos tabulæ aſcenſionum obliquarum ſingularum Zodiaci partium ad quaslibet poli elevationes conſtitutæ, cujuſmodi ediderunt Ioannes Regiomont. & Leovitius, & Eraſmus Reinholdus in tabulis directionum, ex quibus aliquas deſumpſimus. Ingredere canonem obliquarum aſcenſionũ deſtinatam regionis tuæ latitudini, et in area ipſius numerum aſcenſionis obliquæ ſtellæ, (cujus nempe gradum coaſcendentem ſcire intendis) perquirito: mox enim*

*enim videbis in vertice tabulæ ſignum zodiaci, & ad marginem ſiniſtrum habebis gradum illius ſigni, cui hæc obliqua aſcenſio convenit, quique cum propoſita ſtella horizontem tuæ regionis aſcendet.*

*Porro ut gradum deſcendentem cognoſcamus, tunc ad deſcenſionem obliquam ſtellæ propoſitæ adde ſemicirculum; (abjiciendo integrum circulum ſi excreverit) productum numerum tanquam obliquam aſcenſionem tibi proponito: gradum zodiaci reſpondentem huic obliquæ aſcenſioni ad eundem modum, ut ſupra, colligito: quod enim punctum Zodiaci huic invento opponitur, erit quæſitus gradus qui cum propoſita ſtella occidit & infra horizontem deſcendit.*

## Inſtitutio exemplaris.

[ Quęritur quis zodiaci gradus aſcendat & deſcendat horizontem Franequerenſem cum ſtella Arcturi, & quo anni tempore eadem ſtella oriatur & occidat tum coſmicè tum acronicè. Aſcenſio obliqua arcturi ſupra reperta fuit 178: 20, cum qua ingredior canonem aſcenſionum obliquarum competentem elevationi poli 53, ex qua cognoſco prędictæ aſcenſioni obliquæ reſpondere 20 gr. ♍ quam proxime; atque is eſt eclipticæ gradus qui cum arcturo horizontē Franequerenſem aſcendit: unde quando ſol ibidem exiſtit, quod fit circa 12 ſeptemb. diem, Arcturus orietur Coſmicè.

Rurſus ſole exiſtente in oppoſito gradu, utpote ad 29 14 ♓ quod ſit circa 10 diem martii, prędictus arctu- rus orietur Acronice.

Porro ut gradum zodiaci deſcendentem ſive occidentem cum arcturo colligamus: tunc ad deſcenſionem obliquam arcturi, quæ ſupra fuit 240 36 m, adde ſemicirculum 180, producuntur 420 36 m, a quibus rejicio integrum circulum, qui ſuperfluus eſt, relinquuntur 60 grad. 36 m. Cum hoc numero ingredere canonem obliquarum aſcenſionum excerpendo grad. zodiaci ipſi correſpondentem, ut ſupra factum fuit, eſtque 5 gr. ♋ fere. Gradus zodiaci huic oppoſitus, utpote 5 gr. ♑, eſt ipſus, qui cum arct occidit: Quare ſole ibidem exiſtente, quod fit ad 17 circiter diem decemb. prædictus arcturus occidit Acronice. Verum ſole exiſtente in 5 gr. Cancri, utpote circa 17 Iunii, occidit arcturus coſmice.]

*Atque hæc ad noſtra tempora & loca in arcturo ſic ſe habent. Verum ut interpretentur ſcripta antiquorum, tria conſideranda veniunt*, elevatio poli, *cui author ſua ſcripta accommodarit*; ſtellarum ſecundum longitudinem mutatio: *denique* æquinoctiorum anticipatio. *Hinc ſtella eadem arcturi Heſiodo oriebatur coſmice ad* 3 *diem Sept. atque tunc tempus vindemiarum inſtare per eundem arcturi ortum coſmicum ſignificavit, ut in Tom.* 1. *Cap.*6. *Lib.*2. *Pag.* 117. *declaravimus.*

*De ortu & occaſu Heliaco diximus in Tom.* 1. *eodem cap.*6. *lib.*2.

Atque

Atque hæc de ortu & occaſu ſtellarum tam aſtronomico quam poetico, qui in ipſo horizonte fiunt.

*Sequitur de azimuth & Almucantarath ſtellarum, quando ſunt extra horizontem; ſive infra, ſive ſupra eundem.*

## CAPUT VII.

### Ad quamvis diei horam, & in quavis regionis latitudine, Azimuth & Almucantarath ſolis: hoc eſt, circulum verticalem ſolis, altitudinemque ſupra horizontem explorare. Et viciſſim cognito circulo verticali, vel data altitudine ſolis, Quota ſit hora diei cognoſcere.

*Antequam propoſitum exequemur, hæ definitiones erunt repetendæ, quas in Tom. I. lib. 2. cap. 7. latius explicuimus.*

Hora ſolis ſive diei nihil aliud eſt, quam diſtantia meridiani ſolis a meridiano loci

ſive regionis in æquinoctiali, juxta horarum intervalla numerata.

Azimuth ſolis vel ſtellæ eſt diſtantia circuli verticalis ſolis ſive ſtellæ a meridie vel alia quavis plaga in horizonte numerata. *Eſt autem circulus verticalis ſolis vel ſtellæ, circulus a vertice regionis per centrum ſolis vel ſtellæ in horizontem deductus.*

Almucantarath ſolis vel ſtellæ eſt diſtantia vel altitudo ejus ab horizonte in circulo verticali numerata. *Vel eſt arcus circuli verticalis inter centrum ſolis, vel ſtellæ, & horizontem interjectus. Sive eſt proxima ſolis vel ſtellæ ab horizonte diſtantia. His ita præcognitis ſi porro cognoſcere velis, ad quamvis diei horam propoſitam, quanta ſit altitudo ſolis, quantaque diſtantia circuli verticalis ejus a meridie vel ſeptentrione, ſive ortus & occaſus puncto, juxta horizontem propoſitæ tuæ regionis. Neceſſe eſt ut in promptu habeas elevationem poli regionis, cum declinatione ſive parallelo ſolis propoſiti diei, ſic enim per planiſphærium noſtrum quam facillime voti compos fies.*

INQVI-

# INQUISITIO PER PLANISPHAERIUM.

*Conſtitues enim regulam horizontalem in limbo juxta poli elevationem: & in parallelo ſolis horam diei propoſitam inter horarios perquires, cui deinde indicem ſive apicem ſtyli adjunges: poſtea transferatur regula ad æquatorem, quem tibi nunc tanquam horizontem propones. Mox enim index inter parallelos, tanquam altitudinum circulos, altitudinem ſolis ab horizonte numeratam oſtendet: & inter meridianos tanquam circulos verticales idem index diſtantiam verticalis circuli a meridie, vel alia quavis plaga, commonſtrabit.*

## Inſtitutio Exemplaris.

Ad 12 diem Iunii, ſole nimirum exiſtente in ♋. quæritur quæ ſit altitudo ſolis, & diſtantia circuli verticalis Franequeræ ad horam pomeridianam quartam.

Altitudo poli Franequeræ eſt 53 gr. declinatio ſolis exiſtentis in Canc. eſt $23\frac{1}{2}$, unde parallelus ejus eſt in tropico Cancri. Conſtituo itaque regulam juxta hanc elevationem: & in parallelo ſolis, utpote tropico Cancri, perquiro horam quartam pomeridianam, & eidem indicem adjungo: transfero deinde regulam ad æquatoris ſitum: mox enim index inter parallelos oſtendet ſolis altitudinem quæſitam $36\frac{1}{2}$ ab horizonte numera-

tam; & inter circulos meridianos, numerando a meridiano extimo, idem index diſtantiam verticalem à meridie numeratam exhibebit, utpote 81½ vel ab occaſu diſtabit 8½ grad.]

## *Reciprocum.*

2 Cognita altitudine ſolis, vel diſtantia circuli verticalis ejus a meridie, vel alia quavis plaga: in cognitionem horæ pervenire.

*In his, ut ſupra, cognitio elevationis poli, & declinationis ſolis requiritur: ſi enim deinde ex obſervatione per aſtrolabium, vel aliunde, exploratam habeas ſive altitudinem ſive azimuth ſolis; ad cognitionem horæ perduceris hoc modo.*

*Conſtituatur regula horizontalis ad regionis latitudinem, & in ſolis parallelo, ſive declinationis circulo, index ad æſtimatam utcunque horam inter horarios collocetur.*

*Deinde horizon ad æquatoris ſitum transferatur; quod ſi tunc index inciderit in ſolis altitudinem, ſive in verticalis circulum, hora quærenda erit propius ad meridiem; ſin necdum eo pervenerit index, horæ remotior erit a meridie quam æſtimaveras; quamobrem, reducto horizonte ad elevationem poli, index ex ſumptis jam inditiis inter horarios*

propius

*propius ad meridiem vel remotius in eodem ſolis parallelo collocetur, idque bis terve repetatur, quouſque traducto horizonte ad æquatorem, index in altitudinis ſive verticalis ſolis circulum exacte inciderit: ubi igitur, bis terve tentando, res ſucceſſerit, reducatur horizon ad ſitum latitudinis, namque tunc index horam quæſitam parteſq; ejus exactiſſime inter circulos horarios demonſtrabit. Verum pomeridiana an antemeridiana ſit hora facile ex umbrarum obſervatione, vel ex ſolis aſcenſu & deſcenſu æſtimabis, namque ſtylo e terræ plano erecto, ſi umbra ejus poſt exiguum tempus elapſum cedat verſus ortum; vel ſi decreſcat & minor fiat, tempus erit pomeridianum. Contra umbra cedente verſus occaſum, vel creſcente umbra; erit tempus antemeridianum.*

EANDEM HANC DOCtrinam via Geometrica in figuris planis exhibere: & obiter datur methodus conſtruendi canonem

altitudinis ſolis ad quamvis propoſiti diei horam.

3 Data Solis declinatione ad quamvis diei horam & in qualibet poli elevatione: Altitudinem ejus ſupra horizontem, & diſtantiam verticalē, ſive Azimuth, artificioſe inquirere.




*In ſchemate adjecto peripheria ex Q conſtituta ſit meridianus Franeq. in qua HQO horizon, ejuſque axis YZ.*

*ÆQI æquinoctialis, cum axi mundi ER.*

*PSA parallelus declinat. Solis*

[ Qui loco exempli ſit in Cancri principio.]

*Ad quem conſtituatur peripheria PEA.*

*Et illa conſtruenda ſunt at docuimus in ſchæmate pag. 67.*

*Quibus ita conſtitutis ſi ad quamlibet diei horam.*

[ Verbigratia ad 9 antemerid. vel 3 pomerid. ſole exſiſtente in parallelo ♋, quem in ſchæmate conſtituimus ducta linea PA.]

*Altitudinem ejus ſupra horizontem & diſtantiam verticalem, azimuth dictam, cognoſcere intendas. Voti compos fies hoc modo.*

*In ſemiperipheria PEA incipiendo ab A horas tuas a meridie elapſas, & in gradus æquatoris reductas, numerabis: idque quando ſunt horæ pomeridianæ; verum pro antemeridiana hora aſſumes reſpondentem pomeridianam: namque horæ æqualiter a meridie diſtantes (ut ſunt 11 & 1. 10 & 2. 9 & 3. etc.) æquales habent ſolis altitudines & azimuth.*

[ Numerabis itaque loco exempli horas tres, ſive grad. 45, ab A uſque ad F.]

*Deinde ex numerationis termino F deſcendat ad parallelum declinat. PA linea perpendicularis FO, quæ ſecat parallelum PA, ad ſignum O, perque ſignum O trahatur recta BOC, quæ ſit horizonti, ſive rectæ HQO parallela; & hæc BOC linea refert lineam almucantarath ſolis. Proinde arcus meridiani*

HB

*HB vel OC almucantarath ſive ſolis altitudinem ſupra horizontem repræſentabit. Conſequenter ex ſigno O excitetur ad diametrum BOC perpendicularis OT, ſecans peripheriam BYC (ad diametrum BC conſtitutam) in ſignum T. Hinc arcus peripheriæ CT azimuth ſolis a meridie præfiniet.*

[ Quomodo autem arcus iſti cum altitudinis ſolis HB vel OC, tum azimuth CT in peripheriis ſuis ſint numerandi, docuimus in lemmate Tom. 2. pag. 23.]

Compendium notandum.

*Ex eiſdem his in ſchemate conſtitutis & eodem labore ſolis altitudinē cognoſces quando ſol exſiſtit in oppoſito auſtrali parallelo.*

[ Vt noſtro exemplo quando eſt in Capricorn.]

*In peripheria enim PEA diſtantiam horæ tuæ propoſitæ a meridie (Nempe ut maneat idem exemplum, horas tres ſive grad. 45.)*

*Numerabis a P incipiendo uſque ad G, & ex numerationis termino G ducenda in parallelum declinat. PA perpendicularis GO, perque O ducatur ipſi HQO horizonti parallela BY. Proinde arcus meridiani HB vel OX referet depreſsionem ſolis infra horizontē ad horam a nocte media numeratam.*

[ Vtpote in noſtro exemplo ad horam noctis 3.]

*Quando*

*Quando nimirum ſol exſiſtit in parallelo Boreali; & eadem exſiſtit ſolis altitudo ſupra horizontem ad eandem horam (Utpote tertiam vel nonam) diei; quando ſol in Capric. utpote oppoſito parallelo verſatur.*

4 Vice verſa cognita per obſervationem vel aliunde altitudine ſolis, cum declinatione ejuſdem data: horam diei reſpondentem colligere.

*In meridiano ſuper centro Q delineato æquinoctialis, horizon, parallelus declinat. ſolis delineantur ut pridem. Deinde in meridiano ab horizontis linea duo arcus altitudinis ſolis datæ ſumantur, utpote HB & OC, & terminos B & C junges linea recta BC, quæ altitudinis parallelum referet, ſecabitque parallelum declinat. ſolis PA in ſignum O, ex quo egrediatur ipſi PA perpendicularis PF ſecans peripheriam, ad PA conſtitutam, in F: arcus ejuſdem peripheriæ AF diſtantiam horæ deſideratæ a meridie præfiniet, quæ an antemeridiana an pomerid. ſit, ex umbra ſolis judicabis, ut docuimus pag. 81.*

IN QUI-

## INQVISITIO HORVM ex eodem ſchæmate per numeros, & obiter de conſtructione canonis altitudinis ſolis pro ſingulis ſignorum initiis, qui in ſciatericis conficiendis ſumme exſiſtit neceſſarius.

*Inſtitutio exemplaris.*

5 Quæratur altitudo ſolis exſiſtentis in Cancri vel Capricorni initio; idque Franequeræ ad horam 3. pomerid. vel 9. antemerid.

*In ſchæmate ad parallelum declinat. ſolis PA conſtituatur triang. PDA rectangulum ad D, & a ſigno O dimittatur in horizontem HQO perpendicularis OM, quæ referet ſinum arcus OC, utpote altitudinis ſolis ad horam quæſitam 3 vel 9 quando ſol eſt in Cancr. in altera parte recta OR eſt ſinus arcus HB altitudinis ſolis ad eandem horam quando ſol exſiſtit in Capricorn. & utræque hæ altitudines hoc modo inquiruntur:*

| | | | |
|---|---|---|---|
| Ad arcum declinat. Solis | IA | 23 | 31½ |
| Adde arcum elevat. ęquatoris | OI | 37 | |
| Producitur arcus alt. ſolis in meridie | OA | 60 | 31½ |
| Cujus arcus ſinus eſt recta | AX | 87057 | |

*Invent.*

*Invent. primum* 87057.

| | | | |
|---|---|---|---|
| Conſequenter in altera meridiani parte | | | |
| Ab arcu elevationis æquatoris | ÆH | 37 | |
| Aufer arcum declinationis ſolis | PÆ | 23 | 31½ |
| Rel. altit. ſolis merid. quãdo eſt in ♑ | PH | 13 | 28½ |
| Cujus ſinus, utpote recta | XD | 23302 | |
| Inv. 1. AX, adjecta producit rect. | AD | 110359 | |
| Ejus ſemiſsis eſt recta KD vel KA | | 55179 | |

*Invent. ſecundum* 55179.

Inventum ſecundum KA, ab invento primo AX, auferatur, relinquitur recta KX 31877

*Inventum tertium* 31877, *eſique ſinus altitudinis ſolis ad horam* 6.

Porro ducatur recta a K per punctum S, hoc eſt communem axis mundani & paralleli declinationis interſectionem ut fiat KS. Hinc duo conſpiciuntur triang. SKA & SNO quæ ſunt æquiang. anguli enim K & N ſunt recti, angulusque S eſt communis. Denique qualium SA radius, earum SO erit ſinus arcus EF, diſtantiæ nimirum horæ 3 ab hora 6, utpote 45 gr. Vnde per 4 p. 6 Elem. Eucl. ſic ratiociuari licebit.

| | | | |
|---|---|---|---|
| VT | SA Radius 100000. | AD SO ſin. arcus EF 45 gr. 70711. | ITA AK Inv. 2. 55180. AD |

*Inventum quartum ſive rectam ON quæ erit* 39018.

Inventum quartum ſive recta ON addatur invento tertio ſive rectæ KX, vel ipſi æquali NM 31877, producitur recta OM 70895, eſtque ſinus arcus OA altitudinis ſolis quæſitæ, quando eſt in ♋ utpote 45 g.

Eadem opera habebitur altitudo ſolis quando eſt in Capricorn. continuetur enim KS linea, & dimittatur perpendicularis VRO, fiet triangulum VOS æquilaterum & æquiang. ipſi SNO trian. & latus VO æquabitur lateri NO ſive NM invento quarto, unde ab eodem

dem invento quarto ON, vel ipſi æquali VO, aufer inventum tertium KX, vel æqualis ipſi VR, relinquitur RO 7141. Sinus arcus HB altitudinis ſolis exſiſtentis in Capricorn. ad horam 3 vel 9 utpote 4: 6 m.)

## Compendium pro reliquis altitudinibus ad quaſlibet ejuſdem diei horas acquirendis.

*Altitudinem ſolis ad reliquas ejuſdem diei horas compendioſe invenies hoc modo, verbi gratia, quæratur ſolis altitudo ad horam 4 pomerid. vel 8 antemerid.*

In ſemiperipheria ab A uſque ad D numera gradus 60 utpote diſtantiam horæ 4 a meridie, & deſcendat in parallelum declinat. PA perpendicularis DE, rurſus ex ſigno E deſcendat in horizontem HQO perpendicularis EO, quæ referet ſinum altitudinis ſolis ad hor. 4 deſideratam, eumque hoc compendio invenies. Triangula SKE & SKA ſunt æquiangula. Quare erit

| | | | |
|---|---|---|---|
| VT SO Radius. | AD SE ſin. arcus ED | ITA AK inventum 2. | AD EK |

### *Inventum quartum.*

Inventum hoc quartum, vel recta FK, addatur invento tertio, utpote rectæ KX, vel ipſi æquali KO, producitur recta EO, eſtque ſinus, ut antea diximus, altitudinis in horam deſideratam. Conſequenter ad horam veſpertinam 4 vel matutinam habebis ſolis altitudinem ſubducendo inventum tertium ab invento quarto, relinquetur enim ſinus altitudinis.

*Et ſic conſtat quomodo facillima methodo, qualem apud nullum invenimus, canon altitudinis ſolis pro ſingulis ſignorum initiis condendus ſit.*

Reci-

## Reciprocum.

6 Horam diei, ex altitudine ſolis per inſtrumentum, vel aliunde, acquiſita, eodem calculo acquirere.

### Exemplum.

[ In elevatione poli Franequerana detur altitudo ſolis exiſtentis in ♋ 45 9. Quæratur quota ſit iſtius diei hora.

| | | |
|---|---|---|
| Inventum primum | AX | 87057 |
| Et inventum ſecundum | AK | 55179 |
| Cum invento tertio | KX | 31877 |
| Inquirantur ut pridem. | | |
| Hinc quæratur ſinus altitudinis. | | |
| Solis, quem præfinit recta | OM | 70895 |
| A qua inventum tertium KX auferatur | | |
| ut relinquatur inventum quartum | ON | 39018 |

*Inventum quartum* 39018.

Hinc in triangulis SON & SAK æquiangulis erit.

VT AK Inv. 2. AD ON Invent. 4. ITA Radius AD
55179 39018 100000.

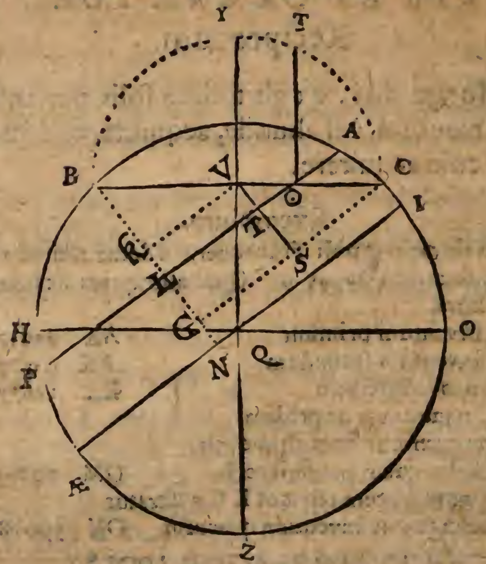
Rectam SO 70711, eſtq; ſinus arcus EF, utpote diſtantiæ horæ deſideratæ ab hora 6.

Atque ſinui 70711 reſpondet arcus 45 gr. qui 3 horas efficiunt, quibus hora quæſita ab hora 6 diſtat, erit igitur hora pomer. 3 vel antemer. 9.]

7 Data altitudine ſolis ſupra horizontem, cum declinatione ab æquatore, Azimuth ejuſdem per numeros inquirere.

[ Verbi gratia altitudo ſolis ſupra horizontem detur 45 9 m. Solis declinatio ſit 23 31½, idque Franequeræ. Quæratur azimuth ſolis.

Ne lineamenta memoriam conturbent placuit præ-




ſens problema alio ſchæmate exhibere, in quo horizon HQO: ejuſque axis YZ: æquator ÆQI: parallelus declinat. PA: parallelus altitudinis BC, ad quam conſtructa ſit ſemiperipheria BYC.

Porro locus ſolis eſt in communi parallelorum interſectione ad ſignum O, ex quo excitetur ad BC perpendicularis OT, unde arcus peripheriæ YT azimuth ab ortu vel occaſu numeratum referet, & recta VO eſt ejuſdem arcus ſinus.

Et hæc eodem modo ſe habent ut in priori ſchæmate. Quare ut arcum YT, ſive rectam VO inveniamus, conſtitues ad parallelũ altitudinis ſolis BC triang. BGC cum reliquis lineamentis. Quorum ratiocinio rectam, VO, hoc modo colliges.

| | | | |
|---|---|---|---|
| Ad altitudinis ſolis arcum | HB | 45 | 9.m. |
| Adde arcum elevat. æquatoris | HÆ | 37 | |
| Producitur arcus | ÆB | 82 | 9.m. |

Cujus

| | | |
|---|---|---|
| Cujus ſinus eſt recta | BN | 99063 |

*Inventum primum* 99063.

| | | |
|---|---|---|
| Conſequenter ab altitudinis arcu | OC | 45 9. |
| Aufer arcum elevat. æquatoris | OI | 37 |
| Relinquitur arcus | IC | 8 9. |
| Cujus deinde ſinus utpote recta | GN | 14176 |
| Ab invent. 1. BN ſubſtract. relinq. recta | BG | 84887 |
| Ejuſdem ſemiſsis dabit rectam BK vel | GK | 42443 |

*Invent. ſecund.* 42443.

| | | |
|---|---|---|
| Inventum ſecundum BK aufer ab invento | | |
| Primo BN, relinquitur recta | KN | 56620 |
| Sinus arcus ÆP decl. ſolis quē refert recta | LN | 35050 |
| Subſtrahatur a KN, relinquitur | KL | 21570 |

*Invent. tertium* 21570.

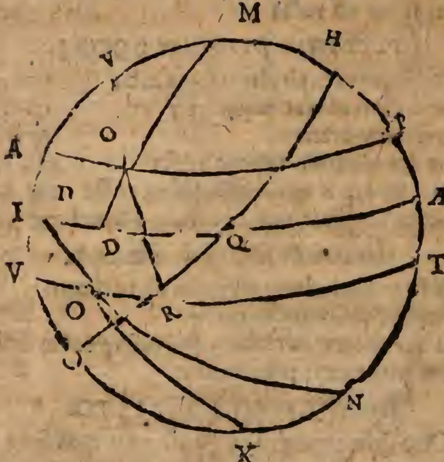
Duo ſunt triangula VTO & VSC quæ ſunt æquiangula propter ang. ad T & S rectos, & ang. utrique triangulo commtinem C. Porro latus VT æquatur invento tertio KL: latus VS æquale eſt invento ſecundo KG. ex quibus ita argumentari licebit:

| | | | | | | |
|---|---|---|---|---|---|---|
| VT | VS vel KG | AD | VT vel KL | ITA | VC Radius. | AD |
| | Invent. 2. | | Invent. 3. | | | |
| | 42443. | | 21570. | | 100000. | |

VO ſinum arcus VT 50821, cui ſinui reſpondet arcus 30 grad. 33, tantumque eſt ſolis azimuth ab ortu vel occaſu numeratum.

# INQVISITIO HORVM per triangula Sphærica.

8 Azimuth & almucantarath ad propoſitam diei horam inquirere.




*In diagrammate hoc peripheria circumſcripta ſit meridianus Franeq.*

*HQO horizon, ejuſq; vertex V, nadir N.*

*ÆQI æquinoctialis, ejus polus boreus M, auſtrinus X.*

*POA parallelus ſolis boreus.*

*O intelligatur locus ſolis ad horam propoſitam, proinde MOD erit meridianus ſolis, & VOR circulus verticalis, adeoque arcus æquinoctialis DI præfinit horam a meridie, eſtque menſura anguli DMI: arcus horizontis RO menſurat diſtantiam verticalem ſive azimuth a meridie numeratum, eſtq; menſura anguli RVO: denique arcus circuli ver-*

*verticalis RO præfinit altitudinem ſolis ſupra horizontem.*

His ita conſtitutis facile problemata præcedentia ſolvemus.

Exemplum.

[ Quæritur azimuth & almucantarath ſolis ad horam 3. pomeridianam, 12 diei junii, ſole exiſtente in principio Canc. idque juxta horizontem Franeq.

In triangulo MOV obliquang. dantur

Crus MV diſtantia verticis a polo, utpote complem. latitudinis 37.

Crus MO complementum declinat. ſolis 66 28½

Et angulus a cruribus compræhenſus M, utpote diſtantia horæ tertiæ a meridie 45 gr.

Quæritur primo

Latus tertium VO complementum altitudinis ſolis idque per 23 probl. Sphær.

Secundo quæritur ang. V idque per 24 probl. ſphær. ex datis nempe tribus trianguli lateribus: vel inveſtigabitur idem ang. V per 21 probl. idque ex datis lateribus MO & VO, cum angulo uni eorum oppoſito M. Vnde pro angulo alteri lateri dato oppoſito, utpote ang. V inquirendo: hoc modo per citatum 21 problema ratiocinari licebit, ut ſinus lateris VO. ad ſinum ang. oppoſiti M: ita erit ſinus lateris MO, ad ſinum ang. huic oppoſiti V. Atque hunc angulum V menſurat arcus horizontis HR, eſtque azimuth ſolis a ſeptentrione: quo ſubſtracto a ſemicirculo, relinquitur azimuth RQ, a meridie numerato.]

Eadem erit horum inquiſitio ſole exiſtente in ſignis auſtralibus.

*Verbi gratia quæratur azimuth & almu-*

*cantarath ſolis exiſtentis in Capricorni principio ad horam tertiam pomeridianam.*

*In diagrammate eodem intelligatur TOV parallelus ſolis ſive tropicus Capricorni.*

*O locus ſolis ad horam conſtitutam tertiã.*

*XOD meridianus ſolis, proinde DO declinatio ſolis auſtrina.*

*Arcus æquinoctialis DI, menſurans angulum DXI, eſt diſtantia horæ tertiæ a merid.*

*NSO circulus verticalis ſolis, adeoque SO altitudo ſive almucantarath ſolis.*

*Atque arcus horizontis SO menſurans angulum SNO azimuth ſolis ſive diſtantia circuli verticalis a meridie.*

In triangulo ONX obliquangulo.

| | | | |
|---|---|---|---|
| Dantur | Crus XO compl. declinat. ſolis | 66 | $28\frac{1}{2}$ |
| | Crus XN compl. latitud. Franeq. | 37 | 0 |
| | Et angulus a crur. compræhenſ. N | 45 | 0 |
| Quæruntur | Latus tertium NO, a quo ſublato quadrante NS: relinquitur quæſita altitudo ſolis. | | |
| | Angulus SNX azimuth ſolis a meridie. | | |

9 Converſum eodem modo patet.

Sole exiſtente in Cancri principio datur altitudo ſolis 36 28 m. Quæratur quota ſit hora diei Franequeræ.

In præmiſſo ſchæmate habeant ſe omnia eodem modo ut pridem.

In triangulo obliquangulo MOV dantur tria latera.

Latus MO compl. declinat. ſolis 66 $28\frac{1}{2}$

Latus

Latus vo compl. altitud. ſolis 53 32 m.
Latus MV compl. latitudinis Franeq. 37

Quæritur.

Ang. M diſtantia nempe meridiani ſolis à meridie, quæ præfinit horam eſtque 60 gr. Vnde hora 8 antem. vel 4 pomerid.

10 Ad eundem modum ſi detur azimuth ſolis exiſtentis in Canc. intelliges exinde horam.

[ In triangulo præſcript. MVO dantur duo latera.
Latus MO complementum declinationis ſolis.
Latus MV compl. latitud. & angulus uni eorum oppoſitus MVO, eſt enim azimuth ſolis a ſeptent.

Quæratur

Angulus OMV præfiniens horam quæſitam.]

## Caput VIII.

Ad quamvis diei vel noctis horam, ex declinatione & aſcenſione recta ſtellæ cujuſvis datis; altitudinem ejuſdem ſupra horizontem, & circulum verticalem in quavis reg. cognoſcere. Et vice verſa horam noctis per altitudinem ſtellæ, vel ejuſdem circulum verticalem explorare.

## 1 Inquiſitio per aſtrolabium.

*Primum ſi data ſit aſcenſio recta cum declinatione ſtellæ, veliſq; ad præfinitam horam diei vel noctis altitudinem ejus ſupra horizontem, circulumque verticalem in regione tua cognoſcere.*

*Ante omnia inquirendum erit in horam ſtellæ, quæ nihil aliud eſt quam diſtantia meridiani ſtellæ a meridiano tui loci in æquatore per horarum intervalla numerata, eamq; ex dorſo aſtrolabii hoc modo quam facillime cognoſces. Si ſtella propoſita volvello non fuerit inſcripta, eam juxta modum in fabrica planiſphærii expoſitum inſcribito. Deinde horam diei vel noctis, ad quam hæc ſcire intendis, in limbo dorſi perquirito, cui adjungatur regula, dioptram quam vocant, & ad fiduciæ ejus lineam locum ſolis tempori obſervationis reſpondentem adducito, poſtea volvello in hoc ſuo ſitu manente, regulam ad centrum ſtellæ propoſitæ, et volvello inſcriptæ transferes, quæ mox in limbo inter horarum numeros horam ſtellæ commonſtrabit. Hac igitur cognita; reliqua, hoc eſt, altitudinem*

*& circulum verticalem ejuſdem ſtellæ ad eundem modum ut in ſole, ex facie planiſphærii perquires.*

*Conſtituatur enim regula horizontalis juxta regionis latitudinem, & ex declinatione ſtellæ data ejus parallelum declinationis perquirito, in quo inter horarios circulos, ad horam ſtellæ ſupra repertam, indicem applicato: deinde regula transferatur ad ſitum paralleli recti, mox enim index inter parallelos, tanquam altitudinum circulos, altitudinem ſtellæ ab horizonte numeratam oſtendet, & inter meridianos, tanquam circulos verticales, idem index diſtantiam circuli verticalis a meridie vel alia quavis plaga commonſtrabit.*

*Ex hac itidem doctrina conſtat quomodo debeamus ex ipſo cœli aſpectu*

2 Reciproce horam noctis per ſtellam cognitam, & volvello aſtrolabii inſcriptam venari.

*Tempore nocturno ſyderibus clare micantibus, ſtellam aliquam cognitam, & volvello inſcriptam tibi proponito: ejuſque per obſer-*

*vationem inquirens altitudinem, diligenter conſidera qua cæli parte conſiſtat, an nimirum reſpectu meridiani ſit ortum vel occaſum verſus. Porro ſtellæ declinatio cognoſcenda, quam vel ex volvello, vel aliunde accipere poſsis. Quibus ita præcognitis, in facie aſtrolabii regulam horizontalem ſecundum regionis latitudinem collocato, & parallelum declinationis ſtellæ perquirito, in quo aptabitur index ad horam aliquam juxta apparentem ſtellæ a meridiano diſtinatam e cælo æſtimatam.*

*Deinde transferes regulam ad æquatoris ſitum: quod ſi tunc index in parallelum altitudinis ſtellæ e cælo ſumptæ incidat, repoſito horizonte ad latitudinem regionis, obſervabis horam ab indice inter horarios circulos notatam, namque ea erit hora ſtellæ: pomeridiana quidem & a meridie numerata, ſi quando ſtella conſpecta fuerit in partem cæli occidentalem, contra antemeridiana & a media nocte ſumpta, ſi in plaga orientali.*

*Quod ſi index prima operatione inter parallelos ad deprehenſam ſtellæ altitudinem non inciderit, iterum tertiove tentandum (ut*

*(ut in ſole diximus) donec index quam exactiſsime cum altitudine ſtellæ conveniat, ut de hora ſtellæ, hoc eſt diſtantia meridiani ſtellæ a meridiano regionis tuæ cōſtare poſsit.*

*Ex qua deinde ſolis remotionem ab eodem meridiano, quæ veram indicat noctis horam, hoc modo, ex dorſo planiſphærii colliges.*

*Collocato dioptram in limbo ad horam ſtellæ repertam: & quieſcente dioptra, ad ejus fiduciæ lineam ſtella perducatur, deinde translferto dioptram ad locum ſolis propoſiti tui diei, quæ mox in limbo horam noctis quæſitam præfiniet.*

[ Hæc ut facilius hæreant breve accipe exemplum. Franequeræ anno 1604 die 2 Feb. ſtyli nempe Gregoriani, deprehendi per aſtrolabium altitudinem ſtellæ lucidæ coronæ 40½ idque in partem cæli ortivam: quæritur quota fuerit hora.

Primo ex volvello video declinationem arcturi 28 grad. 25' bor. Qua data conſtituo regulam horizontalem in facie aſtrolabii juxta regionis latitudinem, utpote 53. & apicem indicis in parallelo declinationis ſtellæ adjungo tentandi gratia horæ 9 antemerid. ſiquidem in parte ortiva conſpecta fuit ſtella, deinde tranſpoſita regula ad ſitum paralleli recti, video indicem incidere in 49 fere parallelum, unde colligo horam ſtellæ remotiorem eſſe a meridie quam æſtimaveram: reducta ergo horizontis regula ad ſitum altitudinis, indicem removeo in parallelo ſtellæ longius a meridie verſus ortum, ac ſubinde facto tentamine; video ſi indicem ad horam 8 in ſtellæ parallelo conſtituero, & horizon-

tis regulam. deinde ad parallelum rectum traduxero, incidit index in altitudinem ſtellæ per aſtrolabium acceptam. hoc eſt, in parallelũ 40½: unde concludo octavam eſſe illius temporis ſtellæ coronæ horam: ex qua deinde horam ſolis hoc modo ex dorſo inquiram.

Conſtituo dioptram ad horam 8 in limbo matutinam, ſive antemeridianam, & ſtellam coronæ lucidæ ad fiduciæ lineam pervolvo: Deinde regulam transfero ad locum ſolis propoſiti 2 Febr. diei, utpote 11 ♒, quæ mox in limbo commonſtrat horam noctis 2 cum 2½ grad. qui 10 min. horaria efficiunt.

# PRAESENTIS CAPITIS doctrinam via Geometrica per circinum & regulam abſolvere.

3 Datis aſcenſione recta & declinatione ſtellæ ad præfinitam horam diei vel noctis, Azimuth & Almucantarath ejuſdem in propoſita regionis latitudine per circinum & regulam invenire.

*In primis quærenda hora ſtellæ in gradibus, quantum nempe ſecundum gradus æquatoris meridianus ſtellæ a meridiano regionis remotus ſit. Quod hoc modo fiet, per cap. 2. ad diem horæ propoſitæ aſcenſionem rectam ſolis accipito, cui hora ſolis propoſita inque gradus redacta, & continuata ſerie a media die, more aſtro-*

*re aſtronomorum numerata addatur. Iſto enim modo gradus æquinoctialis ad meridianum poſiti conſtabunt, vulgo vocant aſc. rectam medii cæli, ab inventis hiſce gradibus aſcenſionem rectam ſtellæ, cujus Azimuth & Almucantarath ſcire intendis, auferto; & ſic dabitur ejuſdem ſtellæ hora quæſita.*

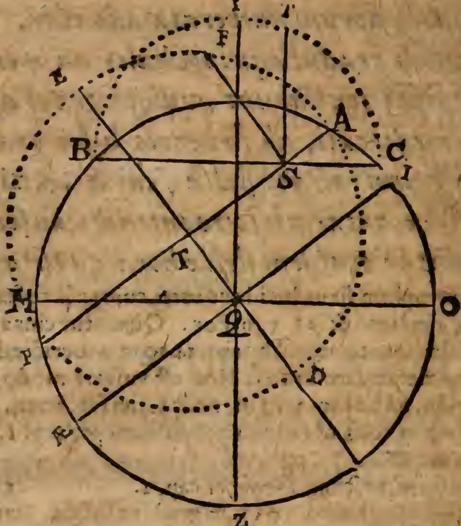
[ Exemplum ſit in lucida corona, cujus aſc. recta eſt 229 30. declinat. & 28 5 m. Bor. Quæratur eius azimuth & almucantarath ad horam 14 10 m. a meridie diei feb. 2 numerata, anni 1604. Hoc eſt vulgari modo numerando, ad horam 2 10 m. noctis, diei feb. tertii.

Locus ſolis ad tempus propoſitum per cap. 1. eſt 23 30 m. ♒.

| | | |
|---|---|---|
| Aſcenſ. recta ejuſdem per cap. 2. | 325 | 50 |
| Cui adde hor. 14 10 m. in grad. reductas | 212 | 30 |
| Producuntur gradus medii cæli | 538 | 20 |
| A quibus aufer aſc. rectam ſtellæ coronæ | 229 | 30 |
| Relinquitur hora ejuſdem ſtellæ in gr. | 308 | 50 |

Vt potea meridie per mediam noctem continuata ſerie, more aſtronomorum numerata.]

*Hora hac ſtellæ ita cognita, voti jam compos fies eodem prorſus modo ut in ſole, quare in ſchæmate horiZon, æquator eorumque axes delineantur ut pridem. Deinde declinationem ſtellæ per theſin datam quæ in corona exiſtit 51 5 m. Bor. numerabis in meridiano ab Æ uſque ad P, & ab I uſque ad A. Proinde recta PA dabit ſtellæ parallelum, ad quam*




*quam ex centro T, conſtitue integram periphæriam PEAD, in qua incipiendo ab A ſecundum literarum DPE ſeriem, horam ſtellæ acquiſitam numerabis: terminus numerationis ſignetur ſigno F, ex quo ad parallelum declinat. demitte perpendicularem FS, ſecans PA in ſignum S, per quod ipſi horizonti HO parallela linea BSC trahatur, quæ parallelum altitudinis ſtellæ referet. Proinde arcus meridiani HB & OC altitudinem lucidæ coronæ deſideratam continebunt.*

*Rurſus ex ſigno S egrediatur ipſi BC normalis*

*malis ST, quæ ſecabit peripheriam, ad BC conſtitutam, in punctum T: proinde arcus ejuſdem peripheriæ YT menſurat azimuth ejuſdem ſtellæ coronæ ab ortu verſus meridiem.*

*Idem ex hoc ſchæmate facili calculo per numeros invenies ut in ſole; ſed pari facilitate ad idem te deducet calculus ſphær. triangulorum.*

4 Inquiſitio per triangula Sphærica.

*Repetatur præcedens ſchæma, in quo PA, ſit parallelus ſtellæ lucidæ coronæ, S locus ſtellæ in eodem parallelo: MSD meridianus ſtellæ, cujus proinde SD arcus præfinit declinat. ſtellæ, & arcus æquatoris DI, continet proximam meridiani ſtellæ a meridiano Franeq. diſtantiam, quam in hoc exemplo cognoſces ſubducendo horam ſtellæ ab integro circulo. Quare* 308 50 *m. aufer a* 360, *relinquuntur* 51 *grad.* 10 *m. & totidem datur arcus æquatoris DI, qui in triangulo MVS menſurat angulum ad M. Quare*

In Triang. MVS obliquang. Sphærico.

Dantur




Dantur ex theſi.
*Crus MV diſtantia verticis a polo mundi* 37
*Crus MS compl. decl. ſtellæ* 61 55
*Angulus M diſtant. ſtellæ a meridie* 51 10

*Quæruntur per* 23 *et* 21 *triang. ſphær. probl.*
*Latus Tertium VS compl. altitud. ſtellæ.*
*Angulus MVS azimuth ſtellæ a ſept.*

5 Reciproco modo cognita, per obſervationem vel aliunde, ſtellæ cujuſvis altitudine ſupra horizontem: Horam exinde perveſtigare.

*Primum cognoſcendum an ſtella propoſita in cæli partem orientalem vel occidentalem verſetur, quod facilè viſus dijudicabit: deinde ſi obſervatam habes ejuſdem altitudinem, exinde diſtantiam meridiani ſtellæ a meridiano loci geometrice hoc modo invenies.*

*In ſchemate præmiſſo HO horizon ÆI æquinoct. & PA parallelus ſtellæ, eodem modo conſtruantur ut pridem. Deinde in meridiano duo*

*no duo arcus HB et OC altitudinis ſtellæ acquiſitæ ab horizonte HO aſſumantur, unde recta BC parallelum altitudinis referet, quæ ſecat parallelum PA ad punctum S, ex quo egrediatur ipſi PA normalis SF, quæ ſecat peripheriam ad PA conſtructam in ſignum F; arcus ejuſdem peripheriæ AF diſtantiam ſtellæ ſive horam ſtellæ a meridiano præfiniet, ex qua horam ſolis facillime colliges.*

*Eandem horariam ſtellæ diſtantiam facillimo calculo ex triangulis ſphæricis hoc modo acquires:*

In triangulo MVS ſchæmatis antecedentis dantur tria latera.

*Latus MV diſtantia verticis a polo 37.*
*Latus MS compl. declin. ſtellæ 61 55 m.*
*Latus VS compl. altitudinis ſtellæ.*

Quæritur per 24 probl. ſphær.

*Angulus SMV, quem menſurat arcus æquatoris DI, comprehenditque diſtantiam meridiani ſtellæ a meridie.*

*Porro cognita hac diſtantia, ſive ſtellæ hora, in cognitionem horæ ſolis hoc modo perduceris.*

*Si ſtella conſpecta ſit ad partem cæli orientalem tunc diſtantia illa reperta, ſive hora ſtellæ auferenda ab aſc. recta ſtellæ, contra eidem addenda, quando nimirum ſtella conſpicitur ultra meridiem in partem cæli occidentalem: iſto enim modo cognoſces gradum æquinoctialis ad meridianum poſitum, a quo aſc. recta ſolis ſubſtrahenda, relinquetur hora ſolis ſive diſtantia ſolis a meridiano in gradibus æquatoris, quam deſideravimus.*

## Caput IX.

### De ſtellarum refractionibus & ſolis parallaxi, quibus Hallucinatio aliqua contingit, atq; ſecundum obſervationes & apparentias aliter ſeſe habent ſidera.

*Quæ ſuperioribus capitibus de ortu & occaſu poſituque ſolis omniumque ſtellarum penes horizontem dicta ſunt, ea aſtronomice intelligi voluimus, quatenus nempe revera in cælo ita ſeſe habeant.*

*Verum ſecundum apparentias, hoc eſt, quatenus ex ſuperficie terræ nos eadem aſpicimus, exploratum eſt, propter vapore e terra aſcendentes (qui aerem nobis proximum paulum craſsiorem minuſque diaphanum quam eſt ſuperior ejus portio reddunt) ſtellas omnes juxta horizontem nobis non directe, ſed refracte apparere, ſic ut ibidem elevatiores ſemper conſpiciantur, quam revera exſiſtunt, cernanturq; ſupra horizontem quando infra latent. Cui rei certum teſtimonium nautæ noſtrates attulere: qui proximo hoc quinquennio per ſeptentrion. plagam tranſitum ad Indiam occidentalem explorantes, in inſula nova Semblæ coacti fuere hibernare, ibique cum per aliquot menſes præſentia ſolis caruiſſent; quatuordecim tamen diebus ante exſpectatum & juſtum apparitionis tempus imaginem ſolis integre conſpexerunt, cum nimirum 5 gradus & ultra juxta calculum aſtronomicũ infra horizontem lateret.*

*In cauſa fuit aer vaporoſus, cujus cauſa contingit (veluti ab opticis demonſtratur) rem aliquam videri per radios nempe refractos, quæ alias per directos viſui noſtro occurrere nequeat.*

*Experimentum notandum.*

[ Exemplum clariſsimum habere licet in denario aliquo in fundum vacui alicujus vaſis mediocris altitudinis poſito, ſi enim eo uſque recedamus, donec denarium iſtum ob interjecta latera vaſis inter ipſum & viſum noſtrum videre nequeamus: deinde uas illud repleatur aqua limpida, ſubitò denarius ille apparebit, & viſui noſtro ſeſe inſinuet.]

*Hinc adeo liquet ſolem & omnes ſtellas quotidie citius oriri atque tardius occidere, quam revera ſit, easdem penes horizontem altiores ſemper conſpici, & mathematicis inſtrumentis elevatiores deprehendi, quam calculus aſtronomicus admittit.*

*Quod ipſum qua lege fiat, & quomodo refractiones illæ cælitus perveſtigandæ ſint, à nullo hactenus quam a ſolertiſsimo Tychone Brahe propoſitum, nedum exploratum fuit. Conſtruxit autem ſummus ille mathematicus duas refractionum tabellas, quarum una ſoli; altera ſtellis fixis inſeruit: atque illam quoque lunæ, hanc autem reliquis 5 planetis applicari poſſe exiſtimat, vix perceptibili intercedente differentia.*

*Exhibent autem iſtæ tabellæ differentiam ſecundum quam aſtra in circulo verticali ad noſtrum horizontem per refractionem apparent*

*rent*

*rent altiora, quam revera ſunt, idque in cælo ſereno, quando aër defecatiſsimus putatur. Cum enim non ſemper ſit eadem aëris puritas, fieri poteſt ut hæ interdum dimidio ſcrupulo, aut forte etiam integro proxime, cis vel ultra ſeſe exhibeant.*

*Has refractionum tabellas etiam noſtri regioni convenire per ratas obſervationes exploratum habemus; verum in aliis remotioribus locis, & præſertim altioribus poli elevationibus hæc propter diverſam aeris naturam & temperiem diſsimiliter ſeſe habere nullum dubium relinquitur, namque exemplum de noſtris Hollandicis nautis modo a nobis relatum manifeſte declarat, parallaxes ſolis in inſula novæ Semblæ, ubi polus elevatur 78 gr. ad 5 gradus excreſcere, cum in noſtro horizonte dimidium gradum eas excedere vix unquam reperies.*

*Nunc tabellas damus in quibus ſiniſter margo refertur ad gradus altitudinis ſolis vel ſtellæ; dexter vero continet minuta refractionum iſtis altitudinibus competentia, & in perpetuum auferenda ab altitudine per obſervationem accepta.*

[ Verbi gratia 12 die decembris anni 1604 meridiana ſolis altitudo obſervata fuit 13 grad. 36 m. cui altitudini reſpondet refractio 8 m. 15 ſ. auferenda ab altitudine inventa, oritur per refractionem emendata altitudo 13 gr. 27 m. 45 ſ.]

## Tabula refract. ſolarium.

| Alt. ſol. G | Refractio. M | Refractio. S | Alt. ſol. G | Refractio. M | Refractio. S |
|---|---|---|---|---|---|
| 0 | 34 | 0 | 23 | 3 | 10 |
| 1 | 26 | 0 | 24 | 2 | 50 |
| 2 | 20 | 0 | 25 | 2 | 30 |
| 3 | 17 | 0 | 26 | 2 | 15 |
| 4 | 15 | 30 | 27 | 2 | 0 |
| 5 | 14 | 30 | 28 | 1 | 45 |
| 6 | 13 | 30 | 29 | 1 | 35 |
| 7 | 12 | 45 | 30 | 1 | 25 |
| 8 | 11 | 15 | 31 | 1 | 5 |
| 9 | 10 | 30 | 32 | 1 | 5 |
| 10 | 10 | 0 | 33 | 0 | 55 |
| 11 | 9 | 30 | 34 | 0 | 45 |
| 12 | 9 | 0 | 35 | 0 | 35 |
| 13 | 8 | 30 | 36 | 0 | 30 |
| 14 | 8 | 0 | 37 | 0 | 25 |
| 15 | 7 | 30 | 38 | 0 | 20 |
| 16 | 7 | 0 | 39 | 0 | 15 |
| 17 | 6 | 30 | 40 | 0 | 10 |
| 18 | 5 | 45 | 41 | 0 | 9 |
| 19 | 5 | 0 | 42 | 0 | 8 |
| 20 | 4 | 30 | 43 | 0 | 7 |
| 21 | 4 | 0 | 44 | 0 | 6 |
| 22 | 3 | 30 | 45 | 0 | 5 |

## Tabula refract. ſtellarum.

| Alt. G | Refract. M | Refract. S |
|---|---|---|
| 0 | 30 | 0 |
| 1 | 21 | 30 |
| 2 | 15 | 30 |
| 3 | 12 | 30 |
| 4 | 11 | 0 |
| 5 | 10 | 0 |
| 6 | 9 | 0 |
| 7 | 8 | 15 |
| 8 | 6 | 45 |
| 9 | 6 | 0 |
| 10 | 5 | 30 |
| 11 | 5 | 0 |
| 12 | 4 | 30 |
| 13 | 4 | 0 |
| 14 | 3 | 30 |
| 15 | 3 | 0 |
| 16 | 2 | 30 |
| 17 | 2 | 0 |
| 18 | 1 | 15 |
| 19 | 0 | 30 |
| 20 | 0 | 0 |

*Deduxit Tycho in hiſce tabellis refractionum ultimum terminum, in ſtellis quidem ad 20 uſque altitudinis gradum, & in ſole ad quadrantis circuli medietatem, ſiquidem circa hoſce limites admodum attenuatæ, imo & inſenſibiles evadunt, & poſtea prorſus evaneſcunt.*

[ Quod ſit, quod ſolis & ſtellarum lumen vapores directius penetrando minime impediatur, quin ad nos irrefracte perveniat. ]

*Apparet quoque ex ipſis tabellis refractiones haſce prope horizontem ſubitæ alterationi obnoxias eſſe; poſtea ſidere elevatiore facto, pedetentim minui.*

[ Cujus potiſsimum cauſa eſt, quod circa horizontem vaporum denſitas longiſsime protrahatur, eademque ibidem in modica altitudinis mutatione confeſtim abbrevietur, ſublimiore non item. ]

## 2 De Parallaxibus ſolis.

*Quemadmodum refractiones ſolem omneſque ſtellas magis attollunt, & juxta horizontem elevatiores faciunt: ita vice verſa parallaxes ſolem, inferioreſque planetas in circulo verticali juſto decliviores reddunt, & eorum ſupra horizontem altitudines imminuunt. Quarum potiſsimũ cauſa eſt quod*

*ſemidiametur globi terreni ad inferiorum planetarum diſtantias non prorſus inſenſibilem magnitudinem habeat. Namque ignorare non oportet calculum omnem de motibus ſtellarum & planetarum, quem tabulis ſive canonibus percipimus, inſtitui pro centro mundi, ſed quia lunæ ſphæra nobis proxima eſt, manifeſta percipitur diverſitas inter locum ejus, quem nos in cælo ex ambitu terræ conſpicimus, & inter locum quem oſtendit linea ex centro mundi per lunam deducta. percipitur hæc locorum evariatio non ſolum in Luna, ſed etiam in Mercurio & Venere, etſi non adeo magna; quin etiam in Sole, licet admodum ſit exilis; tamen non adeo inperceptibilis. Verum in ſuperioribus planetis & in ſtellis fixis, quia propter immenſam diſtantiam nullis inſtrumentis, nulloque ſenſu dijudicari poteſt, prorſus nulla datur: in iis enim indifferens eſt verus locus, qui ſi fieri poſſit a centro terræ ſpectaretur, ab eo, quem viſus apprehendit.*

*Hoc ſaltem loco parallaxes ſolis proponimus: Lunæ autem parallaxes ſuo loco in Tomum ſequentem reſervamus. Primum igitur*

*tur occurrunt ſolis parallaxes quæ in altitudinum ſive verticalibus circulis contingunt, ut quantum eædem altitudinem ſolis imminuant, & ſupra horizontem juſto decliviorem reddant, cognoſcamus. Quod ipſum per planiſphærium etiam noſtrum perquirere licebit: ut ſequitur.*

3 Quanta ſit ſolis parallaxis in quavis altitudine ipſius data.

Inquiſitio per planiſphærium.

*Primum ex tabula eclipſium, ſive ex Ptolomeo vel Copernico, maxima ſolis parallaxis inquirenda, quæ in ipſo ſemper horizonte contingere neceſſum habet, quo enim elevatior ſit Planeta, eo minorem acquirit parallaxin, ita ut in vertice in nihilum abeat.*

*Hanc acquiſitam parallaxin in limbo ſiniſtro ab æquatore ſurſum numerabis. Verum in iſta numeratione ſingulos gradus pro minutis æſtimabis, & termino numerationis regula apponenda, inque ejus partibus ab extremitate introrſum gradus altitudinis, ad quam parallaxin ſcire intendis, ſupputato: parallelus, qui regulam in numerationis ter-*

*minum interſecat, quæſitam parallaxin oſtendet, ubi ſingulos parallelos pro uno minuto æſtimaveris.*

## Exemplum.

[ Maxima ſolis parallaxis, quæ in horizonte contingit præſertim circa æquinoctiorum tempora juxta obſervationes Ptolomei & Copernici reperta eſt trium tantum minutorum. Quare numera in limbo ab æquatore incipiendo 3 grad. pro tribus minutis eos æſtimando, atque eo regulam adducito, in cujus partibus ab extremitate introrſum 60 gradus altitudinis numera. Terminus numerationis incidit in $1\frac{1}{2}$ parallelum: unde pronuntio parallaxin ſolis 1 m. 30 ſ. exſiſtere.]

## Alio modo & exactius.

*Numera inter meridianos ab extimo introrſum maximam ſolis parallaxin a Ptolomeo vel aliunde petitam, ſingulos tamen meridianos pro minutis æſtimando.*

[ Quare loco exempli ſuperioris gradus ſive minuta 3. numerabis.]

*Meridianum numeratum obſervabis: deinde in limbo ſiniſtro ab æquatore ſurſum numera ſolis altitudinem ad quam parallaxin deſideras.*

[ Vnde ut in priori exemplo grad. 60 numerandi.]

*Atque eo regulam adducito. Meridianus enim ſupra obſervatus interſecabit regulam*

*in* $1\frac{1}{2}$

*in 1½ ipſius partem, & totidem minutorum eſt parallaxis quæſita ad 60 altitudinis gradum.*

*Quod in hiſce exemplis gradus pro minutis æſtimamus, demonſtratam habet rationem: propterea quod de minimis angulis agitur quæſtio, quæ propter ſphæræ naturam in majoribus nullum poteſt habere locum, & quanquam in minoribus etiam aliqua rationum diverſitas ſubeſſe poſsit, illa tamen ita exigua eſt, ut inperceptibilis ſit.*

Inquiſitio ex tabulis.

*Vt expeditius & adhuc exactius ſolis parallaxes cognoſcerentur exhibemus hic tabulam qua parallaxes ſolis in circulo ſuo verticali ad triplicem ejus a terra diſtantiã comprehendit, utpote remotiſsimam circa ſolſtitium hibernum, proximam juxta æſtivum ſolſtitium, & denique ad loca his utrinque intermedia. Namque conſideratione dignum eſt quod ſol tempore ſolſtitii æſtivi juxta apogæum remotior ſit a terra, quam prope Perigæum in ſolſtitio Hiberno ſemidiametris ejus 82 fere, ſive terræ miliaribus Germani-*

cis

*cis paulo plus ſeptuaginta milibus, ſecundum quam quoque remotionis differentiam parallaxios rationem nonnihil alterare neceſſum habet.*

Tabella parallaxium ſolarium in circulo verticali ad ejus a terra remotionem triplicem.

Tabella Paralaxium Solarium.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Temp. Solſt. Æſtivi | M | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 |
| | S | 7 | 4 | 56 | 42 | 23 | 0 | 33 | 5 | 32 | 0 |
| Temp. Æquinoct. | M | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 |
| | S | 0 | 57 | 50 | 36 | 18 | 56 | 30 | 2 | 31 | 0 |
| Temp. Solſtit. Hiber. | M | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 |
| | S | 54 | 51 | 44 | 30 | 13 | 52 | 27 | 59 | 30 | 0 |
| Altitu. | G | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |

*Ex tabula apparet, quod parallaxes prope horizontem diu ſimiles fere permanent, ad verticem vero tendendo celeriorem mutationem acquirunt, contrarium ac in refractionibus, quæ circa finitorem ſubito multum alterantur, in altiore vero ſitu pedetentim.*

4 Refractiones ſtellarum, ſoliſque parallaxes in circulo verticali cognitas reſpectu æquatoris in aſcenſionem rectam & declinationem convertere.

*Intel.*

*Intellecta jam evariatione altitudinis, quæ in ſtellis omnibus propter refractiones, & in ſole etiam propter parallaxes in circulo altitudinis fiunt. Supereſt ut quantum eadem ſtellarum aſcenſiones rectas & declinationes ab æquatore mutent oſtendamus. Ejus enim uſus in ſequenti tomo de aſtrorum obſervationibus neceſſarius exſiſtit. Abſolvetur idem per planiſphærium etiam noſtrum hoc modo.*

## Inquiſitio per planiſphærium.

[ Franekeræ ſole exiſtente in tropico ♋ obſervata eſt ejus altitudo 21 gr. in qua refractio ſolis exſiſtit 4 m. ut conſtat ex tabula refractionis.

Quæritur quantum eadem ſolis aſc. rectam & declinationem mutet.]

*In primis quærendus angulus quem meridianus ſolis cum circulo verticali ejuſdem in hoc altitudinis ſitu efficit, quem ita (cognitis prius poli elevatione, ſoliſq; declinatione) in planiſphærio perquires.*

*Conſtituenda regula ad ſitum paralleli recti. Deinde inter parallelos ab æquatore verſus polum arcticum gradus elevationis poli numerato.*

[ Quæ Franekeræ eſt 53 grad.]

*In hoc numerato parallelo indicem ad locum aliquem æſtimatum applicato, quærendus quoque parallelus declinat. ſolis,*

[ Qui in noſtro exemplo eſt $23\frac{1}{2}$ ab æquatore numeratus]

*Quem in uſum obſervabis. Conſequenter numerabis in gradibus limbi ſiniſtri a polo arctico altitudinem ſolis,*

[ Quæ in noſtro exemplo eſt 21 grad.]

*Atque eo transferenda regula. Quod ſi in hoc regulæ ſitu index in parallelum declinationis ſolis obſervatum exacte inciderit peracta erit operatio, ſin minus repetenda eadem operationis forma, hoc eſt regula ad ſitum paralleli recti reſtituta, indicem in parallelo ſuo magis ad dextram vel ſiniſtram partem promovebis, prout vel ſupra vel infra parallelum declinationis obſervatum in primo examine ceciderit: idque bis terve tentandum, donec nimirum regula ad gradum in limbo numeratum traducta, index exacte parallelum declinationis attingat. Iſto enim modo oſtendet index inter meridianos a dextro introrſum numerando, angulum circuli vertic. & merid. deſideratum [utpote 40 gr.]*

*Hoc*

*Hoc angulo ita acquiſito, negotium ſuſceptum omnium facillime exſequeris. Numerabis enim inter meridianos ab extimo introrſum amplitudinem anguli inventi [utpote gr. 40.] & inter parallelos a polo ſupputa refractionem in circulo altitudinis datam [utpote 4 m.] æſtimando ſingulos parallelos pro uno minuto, regulam deinde ad circulorum numeratorum contactum admove, quæ in ſuis partibus ab extremitate uſque ad circulorum contactum refractionem ſecundum ſolis declinationem continebit: nec non in gradibus limbi a polo numerando oſtendet refractionem ſecundum ſolis aſcenſionem rectam [eſtque utrobique 3 m. fere] ubi nempe ſingulos gradus pro minutis æſtimaveris.*

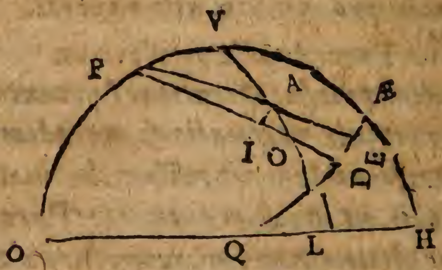
Exemplum de parallaxibus.

*Eadem prorſus operatione (invento prius angulo circuli verticalis & meridiani) parallaxes ſecundum aſc rectum declinationem derivabis, ut in eodem exemplo. Parallaxis ſolis in altitudine 21 gr. reperitur ex tabulæ parallaxium 2 m. 55 ſ. Hanc igitur inter parallelos a polo (ſingulos parallelos pro minutis æſtimando) numerato: deinde inter meri-*

*meridianos ab extimo introrſum ſupputa angulum ſupra repertum 40 grad. communi numerationum concurſu regulam adiunge, quæ mox in limbi gradibus a polo numerando parallaxin aſc. rectæ $2\frac{1}{2}$ m. & in partibus ſuis ab extremitate uſque ad numerationum contactus punctum parallaxin declinationis 2'. commonſtrabit. Sed in hoc differunt parallaxes a refractionibus; quando hæc in uſu additur, illa ſemper in eadem ſtella ſubſtrahitur. De quo poſtea plenius dicendum.*

Inquiſitio per triangula Sphærica.

*In triangulis ſphæricis facilis eſt hujus præcepti demonſtratio.*




*In adjecto diagrammate peripharia ex centro Q deſcripta, ſit meridianus Franeq. HO horizon, ejus vertex V.*

*Æ Q æqui-*

*ÆQ æquinoctialis ejuſque polus P.*

*VL circulus verticalis, in quo O ſolis locus verus, A ſolis locus apparens. Proinde arcus AO eſt refractio altitudinis.*

*Per apparentem ſimul & verum ſolis locum quadrantes meridianorum PAE et POD deſcribantur. Proinde arcus æquatoris ED comprehendit refractionem aſc. rectæ, & arcus EA declinationẽ apparentem cum adjuncta refractione complectitur. Vel compendioſius. Ex puncto A dimittatur in PD perpendicularis AI unde in triang. AIO rectangulo, crus AI refractionem ſecundum aſc. rectam, & crus OI ſecundum declinationẽ, abſque ulla notabili differentia, menſurabit, quæ hac inductione colligere licebit.*

*In triangulo VOP obliq. dantur tria latera.*

*Latus VP diſtantia verticis a polo.*

*Latus VO compl. veræ altitud. ſolis.*

*Latus PO compl. declinat. ſolis.*

*Quæritur per 24 probl. ſphær. angulis circuli verticalis & meridiani VOP.*

*Rurſus in triangulo POA dantur.*

*Angulus POA modo acquiſitus.*

*Crus AO refractio altitudinis.*

*Crus PO compl. declinationis veræ.*

*Quare angulum P, quem menſurat arcus æquatoris ED, utpote refractionem aſc. rectæ; nec non & latus tertium P A, complementum nimirum apparentis declinationis, inquirere licebit. Idem compendioſius aſſequemur ex triangulo AIO rectangulo ad I, in quo datur baſis ang. recti AO refractio altitudinis cum ang. AOI modo reperto. Quare crura AI & OI refractionis nimirum aſc. rectæ & declinationis non ignorabuntur.*

*Quomodo hæ repertæ refractiones applicãdæ veniant ut vera aſc. recta & declinatio in viſam, vel contra viſa in veram convertantur, docebunt hæ ſequentes regulæ.*

## Leges refractionum aſc. rectarum & declinationum.

1 *Quando eſt borealis ſideris declinatio. Tunc apparens ſive refracta declinatio ſemper excedit veram eiuſdem declinationem: contra in auſtrali declinatione eadem a vera declinatione perpetuo ſuperatur.*

2 *Quando ſidus eſt in ortiva cæli parte, utpote quæ numeratur ab ortu ſideris uſque ad me-*

*ad meridiem, tunc aſc. refracta minor ſemper eſt quam vera aſcenſio. Contra in occidua cæli parte eadem ſemper erit major.*

3 *Denique quando ſidus eſt in meridie tunc aſcenſio recta refracta & vera ſunt una & eadem.*

[In meridiano enim ſecundum aſc. rectam nulla datur refractio, ſed tota in declinationem abit, quæ eadem eſt cum altitudinis refractione.]

## Leges Parallaxium.

*Parallaxes aſc. rectarum & declinationum prorſus eodem modo inveſtigantur ut de refractionibus docuimus: cæterum contrario modo applicantur veris ſuis aſcenſionibus & declinationibus. Quare leges requirit omnino contrarias. Namque*

1 *Quando ſidus habet declinat. Borealem, tunc apparens declinatio ſemper exſiſtit minor quam vera ejuſdem declinatio. Contra in Auſtrali declinatione perpetuo eſt major.*

2 *Quando ſidus eſt in ortiva cæli parte, tunc viſa aſc. recta ſemper excedit veram, in occidua cæli parte eadem a vera aſc. ſemper ſuperatur.*

3 *In meridie ut ſupra, vera & viſa aſc. ſunt eadem.*

5 Quomodo refractiones & parallaxes altitudinis juxta eclipticæ ductum, in longitudinem & latitudinem commutandæ ſint.

*Hujus præcepti nullũ video uſum in ſtellis fixis; ſed in eclipſibus ſolaribus cognoſcendis parallaxes luminarium ſecundum eorum longitudinem & latitudinem maxime requiruntur, et difficiliori calculo ex ipſis eclipſium tabulis eruuntur, quam quidem difficultatem facile per planiſphærium noſtrum ſuperamus.*

[ Sumatur exemplum ex eclipſi ſolari, quæ Fragæ Bohem. 14 Decemb. anni 1601 a clariſſ. Tychone Brahe obſervata fuit. Vera luminarium conjunctio fiebat hora 1 m. 44 pom. erantque Sol & Luna ſecundum verum ipſorum ſitum ex centro terræ æſtimatum in 2 54 m. Capric. Quæritur utriuſque longitudo & latitudo apparens, namque propter viſus variationem, ex parallaxibus provenientem, non videbuntur conjuncta luminaria, quæ revera reſpectu centri terræ conjunguntur.]

*Quare ut exequemur noſtrum propoſitum, ſciendum quod in primis hic requiritur cognitio anguli quem circulus verticalis in hoc luminarium poſitum cum linea ecliptica conſtituit. Pro quo angulo cognoſcendo per cap. 6 altitudinem Solis vel Lunæ ad propoſitum vere conjunctionis tempus inquirito.*

[ Exſiſtit

[ Exſiſtit autem illa tam in ſole, quam in luna 12,56 m. nulla perceptibili intercedente differentia.]

*Deinde horoſcopum ſive grad. ecliptica eodem momento ſupra horizontem aſcendentem vel oppoſitum ejus gr. deſcendentem perveſtigato; eumq; ex tabulis aſc. rectarum & obliq. hoc modo invenies. Primum per 9 praec. cap. 2 aſc. recta loci ſolis addiſcatur [quae invenietur 273,10] cui horas tuas a meridie praeterlapſas & in gradus aequatoris reductas [utpote 25 50 m.] ſuperaddes, producuntur gradus ad meridianum poſiti, vocant vulgo aſc. rectam medii cœli [ſuntque gr. 299] hiſce rurſus quadrans circuli ſive gr. 90 addatur, conſtabit aſc. obliqua horoſcopi ſive grad. aequatoris tum temporis aſcendentes [ſuntque 389] cum hiſce aſc. gradibus tabulam aſc. obliquarum civitatis Pragenſis, ubi polus elevatur 50,6 m. intrabis arealiter, quaerendo gradum eclipticae reſpondentem, ut eſt in 10 praecep. cap. 2. Namque is horoſcopum deſideratum repraeſentat [eſtque 26,10 m. Taur.] idem gradus oppoſiti ſigni [utpote ♏ 26,10 m. Scorp.] refert grad. eclipticae deſcendentem.*

*Cognita jam altitudine luminarium ſu-*

*pra horizontem, cum gradu eclipticæ aſcend. vel deſcend. Angulum, quē circulus verticalis in loco conjunct. luminariū cum ecliptica efficit, per planiſphærium hoc modo cognoſces. Primo accipe diſtantiam luminarium a proximo horizonte in gradibus eclipticæ numeratam, quam a gradu eclipticæ aſcendente vel oppoſito deſcendente gradū facile numerabis.*

[ Verbi gratia conjunctio luminarium proxime reſpicit gradum eclipticæ deſcendentem, contingit enim illa conjunctio in 2 54 Capr. gradus eclipticæ deſcendens eſt 26 10 m. Scorp. Quare ſubſtrahe 26 10 m. Scorp. a 2 grad. 54 ♑ remanet diſtantia luminarium a proximo horizonte 36 gr. 44 m. ]

*Hos diſtantiæ gradus numerabis inter meridianos ab extimo introrſum, & in partibus regulæ ab extremitate verſus centrum altitudo ſolis [quæ ſupra inventa eſt tam in ſole quam in luna 12 56 m.] ſupputetur. Promoveatur deinceps regula donec terminus iſtius numerationis ad meridianum numeratum perducatur, quæ mox in gradibus limbi, ab æquatore numeratis, angulum eclipticæ & verticalis circuli diu deſideratum commonſtrabit [utpote gr. 72 fere.]*

*Cognito*

*Cognito hoc angulo facile nunc ſuſceptum negotium exequemur, accipiantur prius parallaxes tam Solis quam Lunæ in circulo verticali ad altitudinem datam contingentes,*

[ Quæ in ſole ex tabula præmiſſa datur 3 m. in luna autem ex tabulis eclipſium invenitur 58 m. ]

*His ita præcognitis inſtituatur operatio eodem modo ut pag. 231 de aſc. rectarum & declinationum parallaxibus præcepimus. Numerabis inter meridianos ab extimo introrſum amplitudinem anguli inventi 72 gr. & inter parallelos a polo parallaxin altitudinis, ſingulos parallelos pro uno minuto æſtimando.*

[ Et id quidem in Sole, verum in Luna, quia parallaxis major eſt, æſtimabis ſingulos parallelos pro 10 ſcrup. hoc eſt 6 parallelos pro uno gradu. ]

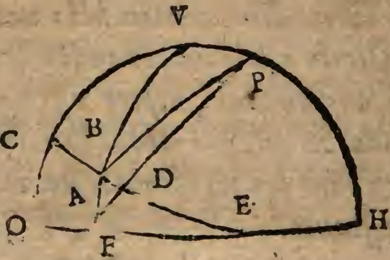
*Ad circulorum numeratorum contactum regulam applica, quæ in partibus ſuis ab extremitate uſque ad circulorum contactum parallaxin latitudinis continebit: nec non in gradibus limbi a polo numerando oſtendet parallaxin longitudinis, utpote æſtimando ſingulos gradus in ſole pro minutis: in luna vero ſingulos gradus pro 10 minutis, hoc eſt 6 grad. pro uno aſſumes.*

[ Exemplum in luna, regula ad communem interſecti- onem meridiani 72 gr. & paralleli ſexti minus $\frac{1}{5}$ partis admota (parallaxis enim altitudinis lunæ eſt 58 m. ſextus autem parallelus 60 m. juxta noſtram æſtimationem efficiunt, hinc $\frac{1}{5}$ pars unius grad. 12 m. conſtituunt) incidet iſto modo regula in ſecundum limbi gradum 8 m. minus $\frac{1}{5}$ gr. qui 18 m. efficiunt pro longitudinis parallaxi: ſimili modo regula in ſuis partibus ab extremitate uſque ad prædictum circulorum contactum continebit $5\frac{1}{2}$ part. quæ in æſtimatione noſtra 55 m. valent. & totidem eſt parallaxis latitud.]

## Demonſtratio in triangulis ſphæricis.

*Ad datum veræ conjunctionis luminarium tempus, cognita luminarium altitudine, cum parallaxi eidem altitudini in circulo verticali reſpondente, nec non & dato horoſcopo ſive eclipticæ gradu aſcendente, cum oppoſito deſcendentis gradu; Parallaxin ſecundum longitudinem & latitudinem ex adjecto ſchemate facillime enucleabis.*

*In adjecto diagrammate peripheria HVCO ſit meridianus.*




HO

*HO horizon.*

*EC ecliptica.*

*VF verticalis circulus luminarium, in quo B ſit locus conjunctionis luminarium, A ſit apparens locus vel ſolis vel lunæ: proinde arcus BA erit parallaxis altitudinis.*

*P ſit polus eclipticæ ex quo egrediantur longitudinis arcus PB & PA.*

*Arcus eclipticæ DB parallaxin in longitudinem.*

*Arcus DA parallaxin in latitudinem menſurabit. Quorum utrumque hac inductione cognoſces.*

*In triangulo EFB rectangulo ad F dantur.*

*Baſis ang recti EB diſtantiam luminarium a gradu eclipticæ deſcend. menſurans.*

*Crus ang. recti BF altitudinem luminarium ſupra horizontem complectens.*

*Vnde ang. EBF a circulo verticali & ecliptica factus per 12 probl. ſphær. non ignorabitur.*

*Rurſus in triangulo BDA rectangulo ad D dantur.*

*Baſis BA parallaxis altitudinis.*

*Angulus B modo acquiſitus.*

*Hinc crura DB & DA per 1 & 2 probl. ſphær. facile acquiremus. Crus DB longitudinis & crus DA latitudinis parallaxin patefacit.*

Leges parallaxium, ex quibus quomodo eædem Planetarum longitudinibus & latitudinibus accommodandæ veniant, liquide conſtat.

1 *Nobis ultra 30 polaris gradum habitantibus latitudines planetarum boreæ apparentes ſemper ſunt minores veris; ſed auſtrinæ majores.*

[ Parallaxes enim ſemper cadunt in auſtrum, unde & planetæ ſemper apparent auſtraliores.]

2 *Quando ecliptica per verticem tranſit & idem fit circulus cum circulo verticali, latitudinis parallaxis omnis evaneſcit, & tota in longitudinem zodiaci cadit, ſi modo planetæ latitudo non ſit nimia.*

[ Verum id ipſum iis tantum evenire poteſt, qui intra zonæ torridæ metas habitant, nobis vero nunquam.]

3 *Planeta in nonageſimo gradu eclipticæ exſiſtens, nullam habet longitudinis paral-*

*laxin*

*laxin, ſed ea tota cadit in latitudinem.*
[ verticalis enim per verum & apparentem planetæ locum ductus, ſecat eclipticam ad angulos rectos.]

4 *Ab horoſcopo ſive gradu ecliptica aſcendente uſque ad 90 ecliptica gradum, viſa vel apparens longitudo ſemper excedit veram, ſed in altero quadrante, utpote a 90 gr. uſque ad gradum ecliptica deſcendentem, eadem a vera planeta longitudine ſemper ſuperatur.*

5 *Quanto planeta propius accedit ad 90 ecliptica gradum, tanto longitudinis parallaxis fiet minor, latitudinis major; contra quanto longius ab eodem removetur, & horoſcopo ſive gradui deſcendenti fit propior, tanto longitudinis diverſitas continget major, latitudinis minor.*

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## Libri 3. ſectio ultima DE ERIGENDIS FIGURIS CAELESTIBUS, in poſitionum circulis.

*Vtilis, jucunda & neceſſaria hæc eſt doctrina,*

*ctrina, quæ ex veris aſtronomiæ principiis oſtendit, quomodo totius machinæ cæleſtis conſtitutio in figura plana laterum duodecim ſit deſcribenda. Vt nimirum totum cælum, hanc ampliſsimam molem, quaſi in ſinu parvæ tabellæ incluſam, circumferamus, & quæ ſigna ſint ſupra horizontem, quibuſve in locis ſtellæ tam erraticæ, quam fixæ hæreant, cognoſcamus.*

*Quo autem conſilio fabrica cæleſtis primi mobilis duodecim domiciliis diſtributa ſit, copioſe explicavimus lib. 2. doct. ſphær. cap.* 10.

*Hoc autem loco inquiremus ſitum eclipticæ & omnium cæli punctorum ad hæc domicilia, idque pro quovis tempore & loco, hoc eſt quæ ſigna & ſtellæ tempore aliquo, reſpectu dati loci, ſive propoſitæ regionis, in ſingulis cæli domiciliis reperiantur. Sed primum de ecliptica, quomodo nimirum ſeſe habeat ad meridianum & horizontem quatuor cardinales domos determinantes.*

## CAPUT 10.

1 Ad quodvis momentum gradum

medii

medii cæli, atque illi oppoſitum, imum cæli cõpendioſe inquirere.

*Gradus eclipticæ qui quovis momento meridianum occupat, dicitur medium cæli, & mediatio cæli, ſive cæli culmen: gradus illi oppoſitus, imum cæli, aut gradum mediæ noctis. Quæ hoc modo acquiruntur.*

## Inquiſitio per aſtrolabium.

*In limbo dorſi ſive poſterioris aſtrolabii partis conſtitue dioptram ad horam tui temporis, qua hæc ſcire intendis; & ad lineam fiduciæ admove gradum Zodiaci volvello inſcripti, quem ſol tempore iſto tenet. Mox enim ad lineam horæ 12 meridiei videbis gradum eclipticæ ad meridiem conſtitutum, utpote gradum medii cæli, & in oppoſita ejus parte habebis gradum imi cæli.*

## Exemplum.

[ Quæritur gradus medii cæli & imi cæli ad annũ 1571, diem 9. decemb. ſtili vet. circa horam 6 veſpertinam. juxta præceptum cap. 1. ſol tunc temporis fuit in 27$\frac{1}{3}$ Sagit. Quare poſita dioptra ad horam, 6 veſp. gradus loci ſolis utpote 27$\frac{1}{3}$ Sagit ad eandem perducatur: & manente volvello transferes dioptram in horam 12 meridiei, quæ mox oſtendet 26$\frac{3}{4}$ Piſc. utpote cæli culmen

men, gradus imi cæli conſiſtit in oppoſita parte ad horam 12 noctis, utpote. 26¼ Virg.]

## Inquiſitio per numeros.

*Primum ad tempus tuum propoſitum locum ſolis in zodiaco perquire per cap. 1: deinde aſc. recta ejuſdem per cap. 2. cui poſtea addantur horæ a meridie præterlapſæ, et in gradus æquatoris reductæ, producetur aſc. recta medii cæli, gradus eclipticæ ei reſpondens (quem idem cap 2. invenire docet) eſt quæſitus medii cæli gradus; gradus eclipticæ ei oppoſitus erit gradus imi cæli.*

Exemplum.

[Ad tempus prædictum utpote hor. 6 veſp. diei 9 Decemb. ſol repertus fuit in 27 gr. 17 m. Sagit. per cap. 1. Deinde aſc. recta ejuſdem loci ſolis eſt 267 gr. 2 m. juxta doctrinam cap. 2. Huic addantur ſex horæ in gradus reductæ, utpote gradus 90, producitur aſc. recta medii cæli 357 gr. 2 m. reſpondetque ei gradus eclipticæ, per ejuſdem cap. 2. doctrinam 26 gr. 46 m. Piſc. fere, namque ſcrupula ſecunda omittimus. Eſtque gradus medii cæli, gradus huic oppoſitus, utpote 26 gr. 46 m. ♍ eſt gradus imi cæli.]

2 Cognito, per cap. antecedens, gradu medii cæli; angulos quos ecliptica tam cum meridiano, quam cum horizonte efficit: gradumque eclipticæ eodem momento exorientem & occidentem artificioſe inquirere.

Inqui-

Inquiſitio per aſtrolabium.

*Numera inter parallelos a polo arct. verſus æquatorem inclinationem ecliptica ad æquinoctialem, [quæ hoc tempore eſt 23½] Parallelus in quem terminat iſta numeratio, præfinit circulum arcticum, in quo inter meridianos eundē ſecantes ſupputa diſtantiam gradus medii cæli, quam habet a proximo æquinoctio: ad terminum numerationis in circulo arctico notula ſignetur, cui adjungenda regula horizontis, quæ mox in limbo, ab æquatore numerando, commonſtrabit angulum acutum ecliptica & meridiani, quo a ſemicirculo ſive 180 grad. ſubſtracto, dabitur angulus reliquus obtuſus. Porro partes regulæ ab extremitate uſque ad prædictam circuli arctici notam oſtendunt declinationem gradus medii cæli: quæ ſi borealis fuerit, addenda ad elevationem æquatoris ſive ad complemētum altitudinis poli, contra in auſtrali declinatione eidem auferenda, ut cognoſcatur altitudo medii cæli ſupra horizontem. Hæc porro meridiana altitudo ſupputetur inter partes regulæ quieſcentis, ab extremitate faciens initium, terminus iſtius numerationis*

*monſtra-*

*monſtrabit inter parallelos, a polo numerando, angulum minorem quem ecliptica ad horizontem conſtituit. Conſequenter inter meridianos ab extimo uſque ad eundem terminum cognoſces gradus eclipticæ, qui ſunt a gradu medii cæli uſque ad horizontem, utpote ortivum ſi quando gradus medii cæli fuerit in ſignis deſcendentibus, occiduum vero ſi in aſcendentibus ſignis.*

[ Aſcendentia ſigna ſunt Capricorn. Aquar. Piſc. Ariet. Taur. Gemin. deſcendentia ſunt Canc. Leo, Virg. Libr. Scorp. Sagitar. ut monuimus in Tom. 1. Pag. 32.]

*Eoſdem eclipticæ gradus inter horizontem & meridianum interjectos cognoſces, ſi manente immota horizontis regula, repertam altitudinem medii cæli inter meridianos a recto verſus extimum numeraveris, iſto enim modo partes regulæ, quæ a centro uſque ad meridianum numeratum numerantur, quæſitos gradus inter horizontem & meridianũ interjectos continent, ut ſupra; nec non & paralleli, qui a polo uſque ad contactum horizontis & meridiani prædicti ſupputantur, horoſcopi amplitudinem ortivam oſtendunt.*

Inſtitutio exemplaris.

[ Gradus medii cæli ſupra repertus fuit 26¾ Piſc. grad.

cujus

cujus diſtantia a proximo æquinoctio utpote ariete eſt 34 gr. quibus in parallelo circuli arctici inter meridianos numeratis, adducendo ad terminum numerationis regulam horizontalem, oſtendet eadem in gradibus limbi, ab æquatore numeratis, angulum acutum eclipticæ & meridiani utpote 66¾ fere, quibus a ſemicirculo ſublatis relinquitur angulus obtuſus 113¼ quam proxime. Porro partes regulæ quæ numerantur a centro uſque ad prædictum numerationis terminum exhibent declinationem gradus medii cæli 1⅕ gr. auſtralem. Quare eadem hæc auferenda ab elevatione æquatori, quæ Alcmariæ (ubi dulciſsimus meæ geniture locus) eſt 37 gr. 20 m. relinquitur altitudo gradus medii cæli 36 gr. 8 m. Hæc conſequenter altitudo numeretur inter partes regulæ horizontalis, idque ab extremitate ejus introrſum verſus centrum. & terminus iſtius numerationis oſtendet inter parallelos a polo angulum eclipticæ & horizontis utpote 39½ fere: nec non & inter meridianos, ab extimo uſque in eundem numerationis terminum, habentur gradus eclipticæ 69½ inter horizontem & meridianum interjectos, utpote occiduum quia nempe gradus medii cæli hic eſt in medietate zodiaci aſcendente.

Eoſdem hos eclipticæ gradus cognoſces numerando altitudinem prædictam inter meridianos a recto verſus extimū. Namque partes regulæ quæ ſunt a centro uſque ad meridianum numeratum exhibent ut ſupra grad. 61⅐, Quare gradus eclipticæ deſcendens & ad occiduū horizontē conſtitutus erit 25½ ♑ iidemque gradus oppoſiti ſigni utpote 25: 26 Canc eſt gradus aſcendens ſive horoſcopus.

*Atque ita cuſpides quatuor domiciliorum exploravimus, ſitumque eclipticæ ad horizontem & meridianum per aſtrolabium invenimus: ſequitur eorundem conſideratio in tri-*

*angulis ſphæricis, ex quibus hæc deduximus, & pluribus modis eadem hæc tum eſt ſequentia per aſtrolabium abſolves, dummodo reſolutionem triangulorum per aſtrolabium bene noveris.*

Inquiſitio per triangula ſphærica.

Dato gradu medii cæli, altitudinem ejus ſupra horizontem, nec non & angulum quem ecliptica cum meridiano efficit, ex ſphæricis triang. inquirere.

*Per cap. 2. quærenda dati gradus medii cæli declinatio, eaque addenda complem elevationis poli ſive altitudini æquatoris, ſi fuerit borealis declinatio, contra eidem auferenda ſi auſtralis ea fuerit. Numerus productus ſive reſiduus dabit altitudinem medii cæli quæſitam. porro repetatur ſchæma cap. 2. in cujus triangulo rectangulo ABC, lat. BC declinationem gradus medii cæli refert, eſtque 1 gr. 12 m. an-*



*m. anguluſque obliquitatis Zodiace BAC eſt 23½. Unde angulus ABC, utpote eclipticæ & meridiani latere non poteſt.*

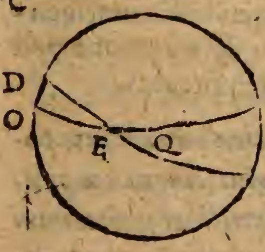
Data altitudine gradus medii cæli: & angulo cognito quem ecliptica ad meridianum efficit: angulum horizontis & eclipticæ, graduſque eclipticæ inter horizontem & meridianum interjectos per ratiocinium triangulorum expiſcari.

*In ſchæmate adjecto.*

*Peripheria circumſcripta ſit circulus meridianus.*

*HQO medietas horizontis.*

*ZED medietas eclipt. interſecans horizontem ad E.*




*Propoſitum eſt invenire angulum E, quem ecliptica facit ad horizontem; nec non & baſin DE, quæ continet gradus eclipticæ inter merid. & horizontem.*

In triang. DOE rectangulo ad O.

Dantur { *Ang. eclipt. & merid. EDO.* / *Latus DO altitud. gradus medii cæli.* }

Quæruntur { *Ang. E eclipt. & horizontis.*
*Baſis ED pars zodiaci inter merid. & horoz. interjecta.*

*Et hæc quidem zodiaci pars inventa repræſentat gradus ecliptica, qui continentur inter meridianum & horizontem utpote ortivum, quando gradus medii cæli eſt in medietate zodiaci aſcendente; ſed occiduum, quando in contraria nempe deſcendente medietate idem grad. medii cæli exſiſtit. Vnde gradus zodiaci exoriens vel occidens latere non poterit.*

3. Situm eclipticæ ad reliquos quatuor poſitionum circulos expiſcari: & primo de cognoſcendis angulis quos circuli iſti cum meridiano faciunt, nec non de elevatione poli ſuper eoſdem poſitionum circulos.

*Priuſquam ſitum ecliptica ad reliquos poſitionum circulos inquiramus, angulum prænoſcere neceſſum eſt, quem quilibet poſitionum circulus cum meridiano facit, inſuper cognitio elevationis poli ad quoſlibet poſitionum circulos uſum in ſequentibus præſtabit, quæ una eademque operatione hoc modo inquires.*

Inquiſi-

Inquiſitio per Aſtrolabium.

*Inter parallelos ab æquatore numerabis diſtantiam poſitionis circuli quã juxta gradus æquinoctialis a meridiano habet, et inter meridianos ſupputabis ab extimo introrſum gradus elevationis poli: ad communem deinde circulorum interſectionem regulam adducito, quæ mox in limbi gradibus, ab æquatore numerando, angulum quæſitum oſtendet: porro immota manente regula, numera inter partes ejuſdem a centro extrorſum eandem poli elevationem, & mox inter parallelos, ab æquatore numerando, uſque ad numeratum in regula punctum, altitudo poli ſupra prædictum poſitionis circulum ſeſe offert. Sed hic non ignorandum quod bini & bini poſitionũ circuli, hinc inde a meridiano æquidiſtantes (quales ſunt cuſpides nonæ & undecimæ domus: quemadmodum quoque cuſpides octavæ & duodecimæ domorum) ſimiles cum meridiano angulos, polumque æqualiter elevatum habent. Idem quoque de oppoſitis domorum ſemicirculis intelligendum.*

Exemplum.

[ Quæritur angulus quem circulus poſitionis cuſpidis 9 domus cum meridiano Alcmarienſi facit, nec non &

quantum polus ſupra eundem circulum extet. Diſtanta hujus circuli a meridiano in gradibus æquatoris eſt 30 gr. (tantundem quoque diſtat cuſpis & circulus poſitionis undecimæ domus, nec non & 5 & 3 domorum oppoſitarum, quare eoſdem angulos cum meridiano, eodemque modo elevatum polum habent) diſtantiam illam numera inter parallelos ab æquatore incipiendo, conſequenter inter meridianos ſupputa elevationem poli Alcmarienſem 52 gr. 40 m. Puncto interſectionis horum circulorum regula jungatur, quæ mox in limbo oſtendet angulum quæſitum 44 gr. Porro manente ſic regula numera in ejus partibus, a centro poli elevationem, ſic enim inter parallelos ab æquatore numerabis quod polus ad hunc circulum ſit elevatus 33 $\frac{1}{4}$ fere.

*Aliud exemplum.*

Quæritur angulus quem cuſpides 12 & 8, nec non & 2 & 6 domorum cum meridiano faciunt, quantumque polus illis elevatus ſit.

Diſtantia horum cuſpidum eſt 60 gr. quare numero 60 gr. inter parallelos, atque inter meridianos ſupputo gradus elevationis poli Alcmari 52 gr. 40 m. & ad concurſum circulorum regula admota oſtendet angulum deſideratum 71 gr. fere conſequenter numerando inter partes regulæ quieſcentis, cognoſco ex parallelis, altitudinem poli ad hunc circulum 48 $\frac{2}{3}$ fere. ]

## Demonſtratio in triangulis ſphæricis.

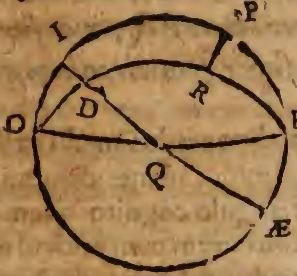
*In ſchemate adjecto peripheria circumducta ſit meridianus Alcmarienſis.*

*HQO horizon.*

*ÆQI æquinoctialis, cujus polus arctic. P.*

*HRDO ſemicirculus poſitionis cuſpidis 9 & 11 domus.*

*Proinde*




*Proinde pars æquatoris DI refert eiuſdem cuſpidis diſtantiam a meridiano, quæ eſt* 30 *grad.*

*Porro a polo deſcendat ad circulum poſit arcus perpendicularis PR, quæ menſurabit elevat. poli.*

*Quæritur igitur ang. DOI, & arcus PR.*

In triang. DIO rectang. ad I.

Dantur { *Crus DI* 30 *gr. diſt. circ. poſit. a merid.*
*Crus IO elevatio æquatoris* 37:20.

*Quæritur angulus* DOI, *quem nempe ſemicirculus poſitionis cum meridiano facit.*

Rurſus in triang. HPR rectang. ad R.

Dantur { *Baſis HP elevatio poli ſupra horizontem* 52 *gr.* 40 *m.*
*Angulus PHR, æqualis angulo DOI modo reperto.*

*Quæritur latus PR, menſurans altitudinem poli ſuper ſemicirculum quæſitum.*

4 Data altitudine gradus medii cæli cum angulo quem ecliptica ad meridianum efficit: nec non & angulo cognito quem circulus aliquis poſitionum cum eodem meridiano facit: gradus eclipticæ explorare, qui inter meridianum & prędictum poſitionis circulum interjacent.

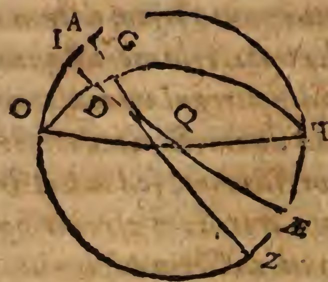
Inquiſitio per planiſphærium.

*Numera inter meridianos ab extimo & dextro ſiniſtrorſum angulum quem ecliptica cum meridiano facit, ſed hic non ignorandum duplicem ab hiſce circulus conſtitui angulum acutum ſcilicet & obtuſum, quorum utrumque cap. præcedente invenire docuimus. Porro quando gradus medii cæli eſt in parte eclipticæ aſcendente, accipies in hac operatione angulũ acutum pro cuſpide 8 & 9 domus inveſtiganda, utpote pro ſemicirculo poſitionis occidentali. Contrariam obſerva legem quando gradus medii cæli fuerit in parte zodiaci deſcendente, tunc enim pro cuſpide 8 & 9 domus obtuſo utere angulo, & pro 11 & 12 domus cuſpide, acuto.*

*Hoc*

*Hoc igitur juxta legem datam angulo numerato, reſervabis tibi meridianum ad quem numeratio deſiit: regulam conſequenter horizontalem ad æquinoctialem conſtitues & denuo inter meridianos, ſed a ſiniſtro dextrorſum, ſupputa angulum circuli poſitionis & meridiani: cui indicem adjungito.*

*Poſtremo in limbo ſiniſtro ab æquatore ſurſum altitudinem gradus medii cæli numerato, & eo regula transferatur. Quod ſi tunc index inciderit in meridianum quem reſervare juſsimus, peracta erit operatio: ſin minus repetes eandem hoc eſt regulam rurſus conſtitues ad æquinoctialem, & indicem ad meridianum ſuum ſed eum plus deprimes aut attolles, pro ut prior æſtimatio te fefellerit: atque ubi ita bis terve tentando res ſucceſſerit, hoc eſt ubi reducta regula ad gradum in limbo numeratum, index exacte in meridianum obſervatum inciderit: mox apex indicis monſtrabit inter parallelos diſtantiam circuli poſitionis a meridiano quæſitam, unde gradus eclipticæ ad eundem circulum conſtitutum latere non poterit.*




Demonſtratio in triang, ſphæricis.

*In ſchæmate præmiſſo omnia ſeſe habeant ut pridem.*

*ZDA ſit medietas zodiaci efficiens triangulum GAO.*

*Quæſtio eſt de latere GA, continens gradus ecliptica inter poſitionum circulum & meridianum interjectos.*

In triang. obliquang. GAO.

Dantur ex præcedentibus.

*Angulus O circuli poſitionis et meridiani.*

*Angulus A merid. & ecliptica.*

*Latus interjectum & utrinq; adjacens AO utpote altitudo gradus medii cæli.*

*Quæritur latus GA, quo dempto a gradu medii cæli, quando ſemicirculus poſitionis eſt in parte cæli ortiva: contra adjecto eidem cum*

eſt oc-

*eſt occiduus, dabitur gradus eclipticæ, qui ad eundem poſitionis circulum conſiſtit.*

*Secundum traditam hanc doctrinam cuſpides ſex domiciliorum artificioſe innueniuntur, et ſex nobis cognitis domiciliis, reliqua per gradus oppoſitorum ſignorum habebimus juxta regulam hanc, Domus domui cæleſti oppoſita: Oppoſitum eclipticæ gradum habet, integer enim poſitionis circulus eclipticam in oppoſitos gradus tranſit.*

*Et hæc de inſcriptione Zodiaci ad figuram cæleſtem per generale aſtrolabii noſtri uſum, quod ipſum etiam perſiciremus pluribus aliis modis, ſiquidem ubertas hujus inſtrumenti in uſu permagna exſiſtit. Sed cum idem expeditius exequemur per circulos poſitionum in planum geometrice deſcriptos, adhibendo volvellum (quod vulgo rete dicitur) cujus compoſitionem ante tradidimus, placuit eorum deſcriptionem & uſum hic ſubjicere.*

5 Circulum poſitionis ſtellæ fixæ vel cujuſlibet cæli puncti aſsignati artificioſe invenire, quanto nimirum angulo vel ad horizontem vel ad meridianum inclinet; ac quantum mundi polus ſuper talem circulum elevetur,

nec non

nec non & quæ pars æquinoct. in eo conſiſtat, & per revolutionem ſphæræ cum alio quovis cæli puncto ad eundem feratur, magna facilitate per aſtrolabium definire.

*Huc huc arrige aures qui ſitum omnium cæli punctorum ad 12 domicilia inveſtigare, totamque dirigendi artem (opus præcipuum aſtrologiæ judiciariæ) ſine ulla fere moleſtia conſtituere velis. Namque huic negotio inſtrumentum hoc omniũ accommodatiſsimum judico, omneſque tabulas ſeu poſitionum canones ſuperare videtur, utpote ex quo ad quaſcunque poli inclinationes, pro quocunq; cæli loco hæc omnia tam facile addiſcuntur, ſi non ad ſingula ſcrupula, ſaltem ad ſextantes vel uncias partium, quod ſatis videri poſſit in re non prorſus explorata, ubi non de ſcrupulis aut ſextantib. ſed de multis etiam partibus controverſia agitur. Atque ut hæc doctrina clarior exiſtat, quid ſit circulus poſitionis de quo nunc agitur definiendum erit, quamvis ex præcedentibus idem facile innotuerit.*

Eſt igitur circulus poſitionis ſtellæ ſive puncti cæli aſsignati, circulus magnus qui

per communes horizontis & meridiani interſectiones, nec non & per centrum ſtellæ, ſive dati & propoſiti cæli puncti decucitur: *Horum autem ſemicirculi ſunt quaſi horizontes quidam, ſupra quos punctus cæli propoſitus ſive ſtella data exoritur: & revera quilibet talium circulorum aliquem in mundo horizontē refert. Hujus igitur quærimus inclinationem ad noſtrum horizontem vel meridianum, utpote quantum angulum cum iis efficiat: ac quantum mundi polus ſupra eundem elevetur. Sicque gradus æquinoctialis in quovis illorum conſiſtentes deinceps perveſtigabimus, nec non ad quod domiciliū prædicta ſtella, ſive propoſitus cæli punctis referatur, clariſsime cognoſcemus. horum autem inquirendi generalis modus hic eſt.*

*Primum ſtellæ datæ ſive puncti cæli propoſiti declinationem per cap. 2 hujus inquire, deinde & horam ſtellæ in gradibus, hoc eſt diſtantiam meridiani ſtellæ a meridie juxta æquatoris partes vel per cap. 8 addiſce, vel potius hoc compendio cognoſce, ex prioribus tum vel maxime ab antecedente capite innoteſcit aſcenſio recta medii cæli, ab eo auferatur*

*tur aſcenſio recta ſtellæ propoſitæ & per cap. 2. inventæ, relinquetur quæſita horaria ſtellæ diſtantia. Quibus ita præcognitis, conſtituenda erit regula ad latitudinem regionis in ſiniſtro limbo numeratam; (ut ſæpe habuimus:) deinde in parallelo declinationis datæ & repertæ, diſtantiã horariam ſtellæ, a meridiano dextro incipiendo, inter horarios ſive meridianos circulos ſupputato; atque ibi index conſtituatur, ita ut apex concurſum diſtantiæ horariæ cum parallelo declinationis exactiſsime attingat. Tandem regula ad meridianum rectum in utrumque polum transferatur. Hæc enim linea horizontis propoſitæ regionis vicem præbet, circuli vero horarii ſunt ſemicirculi poſitionum, ſive horizontes, ab horizonte tuo verſus meridianum inclinantes.*

*Indexque indicat circulum poſitionis propoſitæ ſtellæ, unde quantum is vel a meridiano vel horizonte inclinet inter meridianos numerabis.*

6 Eundem propoſitionis circulum licebit & hoc modo inquirere.

*Conſtitue regulam horizontalem ad æqua-*

*toris*

*toris ſitum, atque inter parallelos ab æquatore versus polum arcticum declinationem ſtellæ propoſitæ numerato: deinde inter meridianos, parallelum numeratum ſecantes, ab extimo & ſiniſtro diſtantiam horariam ſtellæ numerato, ad communem circulorum concurſum index applicetur; poſtea regionis latitudinem in limbo dextro ab æquatore ſurſum verſus polum arcticum numerato; ſi nimirum declinatio ſtellæ datæ borealis fuerit. Contra ſi auſtralis ea fuerit, numeratio fiat in eadem limbi parte dextra verſus antarcticum polum: Deinde iſtic transferatur regula; Confeſtim enim index circulum poſitionis ſtellæ commonſtrabit, ejuſque inclinationem ad meridianum ſive potius angulum, quem cum meridiano conſtituit, ſupputabis inter meridianos ab extimo uſq; ad eum quem index commonſtrat. Eundem angulum pluribus aliis viis cognoſcere licebit ex probl. ſphæricorum triang. per planiſphærium reſolutorũ, ſed hi duo modi noſtro inſtituto ſufficiunt.*

7 Altitud. poli ſupra repertum poſitionis circulũ, necnon & diſtantiam ejuſdem circuli a meridiano in gradibus æquatoris ingenioſe metiri.

*Quantum*

*Quantum vero polus mundi ſuper talem, poſitionis circulum elevetur, conſiderabis: ſi in circulo jam reperto latitudinem regionis inter parallelos ſupputaveris, idque a polo introrſum, atque illic horizon ducatur: gradus enim horizontis qui ſunt ab extremitate uſque ad contactum circuli poſitionis, oſtendunt quæſitam poli altitudinem: vel in limbo ab æquatore numera latitudinem regionis, & ibidem regula admota, ſupputabis in eadem a centro extrorſum inclinationem circuli poſitionis ad meridianum, utpote angulum quem cum meridiano facit: mox enim inter parallelos ab æquatore poli altitudinem ſupra prædictum poſitionis circulum cognoſces, nec non & meridiani, qui ſunt a recto uſque ad prædictum numerationis terminum, indicant diſtantiam circuli poſitionis a proximo meridiano per gradus æquatoris.*

8 Prædictam poli altitudinem cum diſtantia circuli poſitionis a meridiano in gradibus æquatoris, etiam hac via ſcrutaberis.

*Computa in limbo ab æquatore quoquo verſus angulum circuli poſitionis & meridiani*

*modo*

*modo repertum: & ibidem regula admota, numerabis in ejus partibus a centro extrorſum, latitudinem regionis, mox enim inter parallelos ab æquatore altitudinem poli ſupra ſemicirculum poſitionis habebis.*

*Conſequenter manente regula, numerato inter meridianos ab extimo introrſum latitudinem regionis. Contactus enim meridiani numerati ad horizontem oſtendet inter parallelos ab æquatore diſtantiam circuli poſitionis a meridiano ſibi proximo, hoc eſt, vel a meridie vel a media nocte ſecundum gradus ſcilicet æquatoris.*

## Inſtitutio exemplaris prædictorum.

*In Themate ſuperius conſtituto quæratur ſemicirculus poſitionis capitis Meduſæ: hoc eſt angulus, quem facit iſte ſemicirculus cum meridiano, elevatio poli ſupra eundem circulum, nec non & ejuſdem a meridie vel a media nocte, ſecundum æquinoctialis partes, diſtantia.*

### Operatio.

*Aſcenſio recta hujus ſtellæ per cap. 2. reperitur 40 grad. 38 m. hac ablata ab aſc. recta*

*medii cæli quæ in ſchemate reperta fuit 357 grad. 2 m. relinquitur hora ſtellæ, ſive diſtantia meridiani ſtellæ a meridie, continuata ſerie juxta numerorum ordinem in æquinoctiali aſſumpta, utpote 316 26 m. declinatio ejuſdem capitis Meduſæ eſt 39 gr. 22 m. B: quibus ita cognitis, Numera in limbo ſiniſtro a polo arctico deorſum latitudinem regionis thematis conſtituti, quæ fuit 52 gr. 40 m. atque iſtic regula applicetur: Deinde parallelum declinationis ſtellæ, quæ eſt 36½ gr. korperquire, in quo inter meridianos eundem ſecantes, a dextro & extimo, diſtantiam horariam ſtellæ numerato utpote 316 grad. 26 m. atque huic numerationi & ad parallelum ſtellæ indicem applicato: transfer poſtmodam regulam ad meridianum rectum in utrumq; polum, iſto enim modo index inter meridianos ſemicirculum poſitionis capitis Meduſæ indicabit, & meridiani ab extimo uſque ad eundem numerati, angulum meridiani & poſitionis circuli deſideratum compræhendunt utpote 32¼ quam proxime.*

9 Alius modus inquirendi.

*Regulam ad æquatoris ſitum conſtitue, &*

*numera*

*numera inter parallelos verſus polum arcticum declinationem ſtellæ 39: 26 m, in quo inter meridianos ab extimo & ſiniſtro dextrorſum diſtantiam horariam inquirito, quæ fuit 316 grad. 26 m. atque iſtic indicem figito ad communem ſcilicet meridiani & paralleli interſectionem. Poſthac latitudinem regionis in ſiniſtro limbo ſurſum verſus polum arcticum numerato, (quia nempe declinatio ſtellæ eſt borealis, alioquin in contrariam partem verſus polum antarcticum numeratio inſtitueretur) atque iſtic regula transferatur, quæ mox commonſtrabit quæſitum poſitionis circulum, cujus angulum ſive inclinationem ex meridianis ſupputabis ut ſupra.*

*Demonſtratio hujus patet in adjecto diagrammate, in quo omnia ſe habeant ut pridē.*



*S ſit locus capitis Meduſæ, proinde HSO ſemicirculus poſitionis ejuſdem.*

*PST meridianus ſtellæ, proinde PS compl. declinationis ſtellæ.*

*Angulus HPS innoteſcit ex hora ſtellæ.*

In triangulo H P S obliquangulo dantur.

*Crus HP elevatio poli* 52 40.

*Crus PS compl. declinat. ſtellæ* 50 38.

*Ang. HPS* 136:26 *namque eum menſurat arcus æquinoctialis ÆT, utpote diſtantia meridiani ſtellæ a media nocte.*

Quæritur ang. P H R quem facit circulus poſitionis cum meridiano.

*Conſequenter, ut altitudinem poli ſupra eundem circulum, nec non & gradum æquatoris in eundem conſtitutum inquiramus, Numerabis latitudinē regionis in limbo vel dextro vel ſiniſtro utpote* $52\frac{2}{3}$ *ab æquatore verſus polum, & regula illic ſtatuatur, in cujus partibus angulum circuli poſitionis & meridiani modo repertum ſupputato, nempe* $32\frac{1}{4}$. *Mox enim inter parallelos ab æquatore quæſitam poli altitudinem ſupra ſemicirculum*

*lum poſitionis cognoſces 25⅓ grad. Nec non & inter meridianos incipiendo a recto uſque ad numeratum horizontis terminum habentur gradus æquatoris inter ipſum poſitionis circulum & meridianum interjectos, utpote 21 partium fere.*

Aliter.

*Supputa in limbo ab æquatore quoquo verſus angulum circuli poſitionis & meridiani modo repertum 32¾ gr. & regula ibidem conſtituta, numerato in ejus partibus a centro verſus extremitatem latitudinem regionis 52 gr. 40 m. & rurſus habebis inter parallelos ab æquatore altitudinem poli ut ſupra 25⅓. Conſequenter manente regula numerato inter meridianos ab extimo verſus centrum latitudinem regionis & contactus meridiani cum regula oſtendet inter parallelos diſtantiam poſitionis circuli a meridiano ſecundum gradus æquatoris ſumptam, utpote 21 fere.*

Ratio manifeſta ex ſchemate priori.

*In triangulo PRH rectangulo ad R.*

Dantur { *Baſis ang. recti PH altit. poli 52 42.*
*Ang. H circ. poſit. & merid. 32¾ fere.*

*Quæritur latus PR altitudinis poli ſuper ſemicirc. poſitionis.*

*Rurſus in triang. DIO rectangulo ad I.*

Dantur { *Latus IO compl. latit. regionis 37 20.*
*Angulus O circuli poſit. & merid. 32 $\frac{1}{3}$*

*Quæritur arcus æquatoris DI interjacens inter poſitionis circulum & meridianum.*

*Ex his gradum æquatoris ad prædictum poſitionis circulum conſtitutum, hoc ingenio addiſces.*

*Primum diligenter notandum an ſtella, ſive cæli punctus cujus circulum poſitionis exploratum habes in cæli parte orientali vel occidentali exiſtat: præterea an ſupra horizontem an infra eundem in ſubterraneo hemiſphærio poſita ſit, quæ ex præcedentibus tum & facile per ſeſe judicantur. Porro quando ſtellæ exiſtit ſupra horizontem, eſtque in cæli parte ortiva, tunc diſtantiam circuli poſitionis, in gradibus æquinoctialis a meridiano cognitam, addes aſcenſioni rectæ medii cæli, contra aufer eidem, quando eſt in parte occidua. Productus vel reſiduus numerus dabit quæſitum æquinoctialis gradum qui ſemicirculum poſitionis occupat.*

Verbi

Verbi gratia.

[ Aſcenſio recta medii cæli in noſtro themate eſt 357 gr. 2 m, diſtantia circuli poſitionis capitis Meduſæ a meridiano reperta fuit 21 gr. fere. hos adjice ad aſcenſionem rectam medii cæli, quia nempe iſta ſtella exiſtit ſupra horizontem ad partem cæli ortivam; producuntur 378 gr. Hinc abjice integrum circulum ſive 360 gradus ſuperfluos. Concludes exinde decimum octavum æquinoctialis gradum ſemicirculum poſitionis capitis Meduſæ occupare. Verùm quando ſtella ſive cœli punctus fertur infra horizontem in ſubterraneo hæmiſphærio, tunc diſtantiam ſemicirculi poſitionis a meridiano repertam ſemper abjicies a ſemicirculo ſive 180 gradibus, atq; hoc reſiduum eodem modo ut ſupra adde ad aſc. rectam medii cæli quando ſtella exiſtit in parte ortiva utpote poſt mediam noctem. vel abjice ab eadem quando fertur in occidua parte ante mediam noctem. & cognoſces quæſitum æquinoctialis gradum ſub ſemicirculo poſitionis conſtitutum.]

10 Eundem gradum æquinoctialis alio modo ſcrutari: nec non de cognoſcendo gradu æquinoctialis qui per revolutionem ſphæræ cum alia quavis ſtella ſive cæli puncto ad eundem poſitionis circulum feratur.

*Hoc præceptum omnem dirigendi artem in ſe complectitur, eamq; ſine labore perficit. Sed hic requiruntur ea quæ cap. 4 de differentiis aſcenſionalibus & ſubſequenti cap. 5 de aſcenſionibus tum deſcenſionibus obliquis cognoſcendis a nobis ſunt expoſita, cum his enim ſuſceptum negotium breviter, hoc ut ſe-*

*quitur modo abſolves. Primum ex præcepto hujus capitis altitudinem poli ſupra ſemicirculum poſitionis ſtellæ propoſitæ cognoſce, & ad iſtam elevationem poli differentiam aſcenſionalem ejuſdem ſtellæ per præceptum* 11 *cap.* 4. *perquirito. Hanc differentiam aſcenſionalem auferes ab aſcenſione recta ſtellæ, quando ſemicirculus poſitionis exiſtit in cæli parte ortiva; contra addes eidem quando conſiſtit in occidua parte: nullo habito diſcrimine an ſemicirc. conſiſtat ſupra vel infra horizontem in ſubterraneo hæmiſphærio. Atque hoc quidem pro ſtellis, ſive cæli punctis borealibus, contrarium omnino faciendum in ſtellis auſtralibus hoc eſt quando ſemicirculus poſitionis conſiſtit in cæli parte ortiva, addes, & in cæli parte occidua, auferes: iſto enim modo conſtabit gradus æquatoris qui cum prædicta ſtella ſemicirculo poſitionis ad tempus thematis erecti ſubjacet. Ad eundem prorſus modum etiam cognoſcere licebit, quis gradus æquinoctialis cum alia quavis ſtella vel cæli puncto, ad eundem poſitionis ſemicirculum per ſphæræ circumvolutionem perducetur, ut patet in exemplis.*

Illuſtra-

Illuſtratio per exempla.

*In themate erecto altitudo poli ſupra ſemi-circulum poſitionis capitis Meduſæ modo re-perta fuit 25¾ gr. differentia aſcenſionalis e-juſdem ſtellæ in iſta poli altitudine per cap. 4. invenietur 22¾. Hæc igitur auferenda ab aſcenſione recta capitis Meduſæ (quæ eſt 40 gr. 38 m. juxta præceptum cap. 2.) quia nem-pe Borealis eſt ſtella & ſemicirculus poſitio-nis conſiſtit ad partem cœli ortivam: relin-quitur gradus æquinoctialis qui cum capite Meduſæ prædicto ſemicirculo ſubjacet. eſtq́ 17 gr. 53 m.*

*Similis erit inquirendi ratio ſi alium cœli punctum ad eundem poſitionis ſemicirculum dirigere velis.*

Verbi gratia.

[ Lubet ſcire quis æquatoris gradus cum ſtella quæ di-citur venter cete ad eundem poſitionis ſemicircu-lum per revolutionem ſphæræ feretur. Aſc. recta hu-jus ſtellæ eſt 23 gr. o m. declinatio vero 12¾. differen-tia aſcenſionalis in altitudine poli ſemicirculi poſiti 25¾ per cap 4. invenietur 5 gr. 52 m. hæc addenda ad aſcen-ſionem rectam ſtellæ 23 gr. o m. quippe auſtralis eſt & ſemicirculus poſitionis conſiſtit ad partem ortivam, unde concludes 28 gr. 52 m. æquinoctialis gradum eun-dem poſitionis ſemicirc. cum prædicta ſtella ſubire.]

II In qua domo conſiſtat punctus cæli vel ſtella.

quælibet, ex præcedentibus enucleare.

*Quando planeta vel punctus cœli propoſitus nullam habet latitudinem ab ecliptica, tunc ex ſua longitudine domum ſibi competentem judicabis, quemadmodum alibi diximus. Verum ſi inſignem habeat latitudinem, vel etiam declinationem magnam ab æquinoctiali, tunc ex circulo poſitionis ejus duplici via idem ratiocinari licebit, primo conferendo altitudinem poli circuli poſitionis ſtellæ propoſitæ cum iiſdem poli altitudinibus circulorum inchoantium domicilia, quæ ex tabula rationali vel etiam ex aſtrolabio noſtro ſine labore cognoſcuntur ut cap. hoc docuimus.*

*Verum expeditior & certior hujus judicandi ratio ex diſtantia circuli poſitionis a meridiano ſecundum æquatoris partes aſſumitur, vel ex gradu æquatoris qui circulo poſitionis eidem ſubjacet. Cuſpides enim nonæ & undecimæ domus a meridiano 30 grad. æquatoris diſtant, & cuſpides octavæ & duodecimæ domorum gradibus 60. Similis quoque diſtantia eſt domorum oppoſitarum cuſpidum,*

*pidum, quare ſi cum hiſce diſtantiam quam circulus poſitionis propoſitæ ſtellæ a meridiano habet conferas, facile innoteſcet ejus locus in themate, quin & quotam æquatoris partem in domo ſua occupat.*

Verbi gratia.

[ Circulus poſitionis capitis Meduſæ diſtabat a meridie 21 gradibus ad partem ortivam, quare judicabis ſtellam illam conſiſtere in 10 domo utpote ad 21 ejus æquatoris partem, namque decimæ domus cuſpis eſt in meridie, & undecimæ domus cuſpis diſtat 30 grad. a meridie ortum verſus, Caput Meduſæ inter utrumque conſiſtit,

Aliud exemplum.

Circulus poſitionis ſtellæ lucidæ lyræ diſtat a meridie verſus occaſum 39 gr. 50 m. æquatoris, quare locus ei debetur in themate ad 20 circiter partem domus octavæ, namque initium & cuſpis 8 domus diſtat 60 grad. a meridie occaſum verſus, ſed finis ſive initium 9 domus 30 grad. quare lyra inter utrumque ſed propius ad cuſpidem 9 domus conſiſtit.]

## *De Directionibus.*

12 Significatorem quemlibet ad locum propoſitum quemcunque ſive ad promiſſorum contra ſucceſsionem ſignorum: vel converſim promiſſorem ad ſignificatorem ſecundum ſignorum ſucceſsionem artificialiter dirigere.

*Directio*

*Directio nihil aliud eſt quàm enucleatio arcus æquatoris, quem motus ſphæræ complet. quando locus ſecundus ad ſemicirculum poſitionis loci primi vel contra locus primus ad ſemicirculum poſit. loci ſecundi traducitur. Locus primus vulgo appellari ſolet ſignificator, quod ſignificationem alicujus rei repræſentet. Locus ſecund. dicitur promiſſor, quod accidens aliquod ſive bonum ſive malum portendat. Significator igitur habet vicem ſubjecti recepturi aliquid a promiſſore in certo tempore, cujus quidem temporis quantitatem directio metiri ſolet per partes iſtiuſmodi æquatoris ut judicibus placet.*

*Directio autem eſt duplex quarum una quidem vocatur directio directa, vel directio ſecundum ſucceſsionem ſignorum, in qua videlicet locus ſecundus, id eſt promiſſor, intelligitur transferri ad ſitum primi. Hæc medio cœli, horoſcopo aliiſque cœli partibus, præterea omnibus planetis directis, competit.*

*Alia autem vocatur converſa aut contra ſignorum ſucceſsionem, in qua locus primus, intelligitur transferri ad locum ſecundum, utpote ſignificator ad promiſſorem. Hæc ſecunda*

*cunda directione utuntur judices pro parte fortunæ aliiſque partibus, & pro planetis retrogradis.*

*Perficiuntur illæ directiones ut ſequitur Hoc modo. Primum enim pro directione directa menſuranda, propones tibi ſignificatorem, utpote partem aliquam Zodiaci, ſive planetam aut ſtellam aliquam illuſtriorem, ejuſque circulum poſitionis perquire, gradumque æquinoctialis eidem poſitionis ſemicirculo ſubjectum excerpito. Deinde & promiſſorem aliquem eligito, utpote planetam vel alium cæli punctum, qui ex judicatura aliquid portendere videtur; eumque ad prædictum poſitionis ſemicirculum dirigito, hoc eſt gradum æquatoris inveſtigato, qui cum promiſſore, quando ſphæra revolvitur, ad eundem ſemicirculum condeſcendet. Priorem graduum numerum aufer a poſteriori: hoc eſt gradus ſignificatoris a gradibus promiſſoris, aſſumpto integro circulo, ubi opus fuerit, reliquum numerabit directionem quæſitam utpote directam, & ſecundum conſequentiam ſignorum inſtitutam, & totidem anni intercedere judicantur, donec vis ſeu effectus ſignificatoris,*

*ficatori:, in promiſſorem ſeſe exerat.*

Directio.

*Enucleatio directionis converſæ, utpote ſignificatoris cujuſpiam ad promiſſorem, in eo differt ſolummodo a priori: quod gradus æquatoris ſumantur in ſemicirculo poſitionis promiſſoris, & non ſignificatoris: Deinde gradus æquinoctialis, qui cum promiſſore eundem circulum tenent, auferes ab eis æquatoris gradibus quos ſignificator, quando ad eum ſiſtitur, exhibet, accommodato integro circulo, quando opus ſit. Quod enim relinquitur directionem exhibet quæſitam totidemque intercedunt anni donec effectus promiſſoris exſerat ſeſe in ſignificatorem. Nulla hic opus exemplari inſtitutione præſertim ſi præcepta hujus capitis bene didiceris. Plura de progreſſionibus ſive annuis profectionibus ac planetarum irradiationibus pete ex lib. 2. doctr. ſphæricæ.*

13. Sex poſitionum circulos Geometrice ad datam regionis latitudinem deſcribere.

*In ta:*

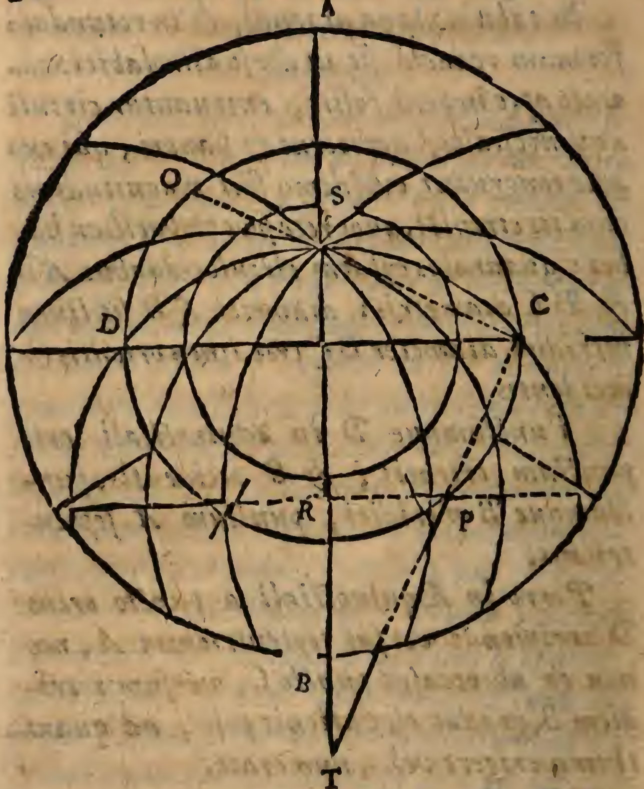
*In tabula plana ac tenui, & in rotundam formam redacta, ſic ut dorſo aſtrolabii excavato apte imponi poſſit, extruantur circuli æquinoctialis, Capricorni & Cancri, qui exacte congruant ejuſdemq; ſint magnitudinis cum iis circulis, quos rete ſive volvellum habet: quadrabis eoſdem circulos duabus AB & DC diametris: diameter AB ſit linea meridiei, diameter DC erit linea orientis & occidentis.*

*Punctumque D in æquinoctiali erit punctum orientis, & C occidentis, punctumque B meridici, punctum A ſeptentrionis.*

*Porro in Æquinoctiali a puncto ortus D incipiendo verſus ſeptentrionem A, nec non & ab occaſus puncto C, verſum meridiem B, gradus elevationis poli, ad quam thema erigere velis, numerato.*

*Termini numerationis ſint in O & P puncta, per quæ ex occidentis puncto C trahantur rectæ CO & CP neceſſario ad C ang. rectum conſtituentes, alioquin per normam corrigendus error: recta CO ſecat lineam meridianā ad punctum S. Et recta CP prolongata, ſecabit*

*eandem*




*eandem meridianam in punctum T. Deinceps inter hac T & S puncta quare officio circini punctum medium R, in quod uno circini pede poſito, altero ad S & T extenſo, deſcribes horizontis circulum, qui neceſſario per communes æquinoctialis et lineæ orientis interſe-*

*ctiones*

*ſectiones, id eſt per D & C puncta tranſibit.*

Eundem horizontis circulum multo expeditius per gradus declinationum indici inſcriptos, hoc ut ſequitur modo conſtitues.

*Primo ex centro tabulæ præparatæ, ſecundum ſemidiametri æquinoctialis volvelli magnitudinem, vel pro capacitate 90 grad. declinationum Borealium in indice conſtitutarum circulum æquinoctialem depingito. Deinde ad extremitatem tabulæ circulum tropici capricorni delineato, ejus enim juſta amplitudo hic non requiritur. Circulos hos duabus ut ſupra AB & CD diametris in quatuor quadrantes diſpeſcito. Index poſtea adaptetur centro tabellæ, eumque ad lineam meridianam A B verſus ſeptentrionis partem A ſtatuito, & in gradibus declinationum ejuſdem, a centro extrorſum, latitudo regionis (ad quam thema cæleſte erigendum erit) numeretur, & fini numerationis terminus horizontis S in linea meridiana ſigneo tur. Conſequenter index volvendus in oppoſitam lineæ meridianæ partem verſus meridiem B, inque gradibus declinationum a cen-*

*ſtro itidem incipiendo. Complementum latitudinis regionis duplicatum ſupputato: atque illis occurret centrum horizontis R, ad quod uno circini pede poſito, altero in punctum S extenſo, deſcribes horizontis circulum, neceſſario per D & C puncta tranſeuntem ut ſupra.*

*His ita conſtitutis per centrum horizontis R duc lineam tranſverſalem & lineæ orientis DC parallelam, circulumque æquinoctialem in 12 divide partes æquales. Deinde regula applicata ad centrum Q, & ad bina diviſionum puncta oppoſita notabis ſingulas regulæ interſectiones ad lineam tranſverſalem, namque ſunt centra ex quibus reliqui poſitionum circuli diſcribuntur, ad quæ uno circini pede poſito, altero ad horizontis terminos S & T extenſo, deſcribantur circuli domorum utpote ab una tropici capricorni parte uſque ad aliam, quia eorum partes extra eundem tropicum cadentes, ſunt inutiles. Circuli iidem neceſſario tranſibunt per interſectas æquatoris partes, alioquin corrigendus error. Neque hic ignorandum, quod bini ſemper circuli eadem circini apertura delineantur.*

*Deſcriptis*

*Deſcriptis hoc modo circulis, tabellam hanc dorſo aſtrolabii imponito, ita ut linea meridiei B A, juxta punctum B, conveniat horæ duodecimæ meridiei, ſic enim linea orientis* DC *ad horam ſextam collocabitur. Addatur inſuper volvellum cum indice ſuo, quod circa centrum erit volubile. Atq; ſic uſui tuo præparatum habebis planiſphærium, & per idem.*

14 Figuram cæleſtem conſtitues, ſitumque zodiaci, omniumque ſtellarum volvello inſcriptarum, ad prædictos poſitionum circulos. Hoc (ut ſequitur) modo, facillime addiſces.

*Indicem volvelli conſtitue in limbo ad horam tui temporis, qua thema cæleſte erigere velis, & ad lineam fiduciæ indicis ejuſdem gradum zodiaci volvello inſcripti quem ſol tempore iſto tenet admove. In hac enim volvelli conſtitutione ſitus Zodiaci omniumq; ſtellarum ad prædictos poſitionum circulos 12 domicilia conſtituentes, patebit. Quare gradus zodiaci in iſta volvelli conſtitutione horizontis arcum attingens ex parte ortiva, dat cuſpidem & initium primæ domus, excipies*

*eundem, & figuræ planæ ad hoc præparatæ ad lineam & cuſpidem primæ domus inſcribito, rurſus gradus eclipticæ in volvello tangens arcum & circulum poſitionis ſecundæ domus, inchoat ſecundum domicilium eumque in figura inſcribes ad lineam ſecundæ domus. Conſequenter gradus zodiaci conſtitutus ad circulum tertiæ domus, ejuſdem cuſpidem & initium oſtendit, & ſic deinceps de aliis domibus judicato. Et hoc pacto ſine labore 12 domos cæleſtes ad omne tempus præſens, præteritum, futurum conſtitues, figurãque cæleſtem eriges.*

Inſtitutio exemplaris.

[ Naſcitur amicus quidam Alcmariæ Batavorum anno 1571. die Decemb. 9 circa horam 6 veſp. pro illo igitur tempore conſtituenda ſit figura cæli. Ad idem illud tempus invenio per cap. 1. ſolem in $27\frac{1}{4}$ Sagit. hunc gradum loci ſolis in volvello perquiro, & per indicem adjunctum ad horam 6 limbi pomeridianam eundem perduco. Mox video in promptu inter poſitionum circulos, initia & cuſpides omnium domorum dati iſtius temporis.

Verbi gratia.

Ad horizontem ortivum, ubi initium primæ domus ſtatuitur, admotus eſt $25\frac{1}{2}$ gradus Cancri: ad ſubſequentem poſitionis circulum $14\frac{1}{7}$ gr. ♌ adjungitur: ſicque ordine reliqua domiciliorum initia colliges aſcribeſque ſchemati: ubi ſciendum oppoſitas domos iiſdem ſignorum oppoſitorum gradibus determinari.]

*Huic*

*Huic etiam themati fulgentiores quaſdem ſtellas inſcribes, in quas autem domos ſtellæ illæ cadant, circuli poſitionum in hac volvelli conſtitutione indicant. Quæcunque enim ſtellæ incidunt inter circulum poſitionis primæ & ſecundæ domus, eædem illæ ad primam domum referendæ. Et quæ in ſpacio 2 domus includuntur, ad ſecundam domum referes, & themati ibidem inſcribes. Pro planetarum inſcriptione loca planetarum ex tabulis Prutenicis ſive Ephemeridibus petes, in eam enim domum planetam includes, quæ ejus gradum ſub quo planeta decurrit, in figura cæleſti comprehendit.*

Verbi gratia.

[ Sol qui tempore nativitatis fuit in $27\frac{1}{5}$ Sagit. habet ſuum ſitum in ſexta domo, prope ejus cuſpidem. Saturnus qui eodem nativitatis tempore fuit 12 gr. 14 m Habet locum in 5 domo, Iupiter in 9 domo prope cuſpidem 10 domus.]

Tabella continens loca Planetarum ad tempus nativitatis, juxta quæ Planetæ ſchemati ſunt inſcriptæ.

| | Longitud. G. | M. | | Latitud. G. | M. | |
|---|---|---|---|---|---|---|
| ♄ | 12 | 14 | ♏ | 2 | 7 | S. Aſc. |
| ♃ | 16 | 45 | ♓ | 1 | 27 | M. Aſc. |
| ♂ | 29 | 5 | ♍ | 1 | 42 | S. Aſc. |
| ☉ | 27 | 30 | ♐ | 0 | 0 | |
| ♀ | 26 | 17 | ♏ | 0 | 19 | S. Deſc. |
| ☿ | 5 | 9 | ♐ | 0 | 52 | S. Deſc. |
| ☽ | 27 | 18 | ♍ | 4 | 0 | Sep. Aſc. |
| ☋ | 3 | 41 | ♌ | | | |

## *Figuram cæleſtem ex tabulis compendioſe erigere.*

15. Initia 12 domorum cæli juxta modum Ioh. Regiomontani ex tabulis aſc. obliquarum conſtituere.

*In ſuperioribus dictum fuit, quomodo poſitus cæli quo ad ſigna zodiaci attinet per aſtrolabium, & ratiocinium triangulum ſph. inveniendus ſit.*

*Ceterum quia in aſtrolabio ſingula tantummodo in gradibus æſtimare licet, tum vero eorum inquiſitio per triangula ſphærica valde operoſa exſiſtit, libet nunc certiorem &*

*rem & commodiorem proceſſum ex* 14 *p. Regiomont. per canonem rectarum & obliq. aſcenſionum ſubjicere. Ordo procedendi hic eſt: Primo ad datum & propoſitum tempus quære locum ſolis ex cap.* 1. *nec non & ejuſdem aſc. rectam ex tabula aſc. rectarum per cap.* 2. *Deinde horas tuas a meridie præterlapſas & in gradus æquinoctialis reductas aſcenſioni rectæ ſolis addes, producetur aſc. recta gradus medii cæli. Gradus eclipticæ huic aſcenſioni reſpondens, quemque ex eadem aſc. rectæ tabula cognoſces, dabit gradum medii cæli ſive cuſpidem decimæ domus.*

*Porro ad aſc. rectam medii cæli adde quinquies triginta æquinoctialis gradus, produces ordine ſingularum domorum aſcenſiones obliquas, nimirum* 11, 12, 1, 2 *&* 3.

*Conſequenter cum latitudine regionis tuæ tabulam domorum rationalem, quam hic ſubjicimus intrabis quærendo ex eadem elevationes poli circulorum inchoantium domicilia, utpote undecimum & tertium, nec non & duodecimum & ſecundum. Poſtea gradus eclipticæ qui tenent initia iſtorum domiciliorum cognoſces ex ſuis aſcenſionibus obliquis;*

*ſub congruentibus poli altitudinibus, ſed prima domus aſcenſio obliqua quærenda eſt ſub latitudine regionis datæ.*

*Quod ſi datarum aſcenſionum numerus in area canonis obliquarum aſcenſionum non reperitur, opus eſt correctione per partem proportionalem ut in uſu tabularum præcepimus.*

*Verum hæc omnia exemplo facilius diſcentur.*

## Exemplum.

[ Amicus quidam naſcitur Alcmariæ Batavorum (ubi polus arcticus elevatus eſt 52 grad. 40 m) ad 9 diem Decemb. anni 1571 ſub horam ſextam veſpertinam. Quæritur poſitus cæli.

Locus ſolis ad tempus propoſitum 27 gr. 17 m. ♐
Cujus aſcenſio recta reperitur 267 gr. 2 m.
Huic addantur 6. horæ in gradus reductæ, utpote 90
Producitur aſc. recta medii cæli ſive 10 domus 357 2

Cui addantur 30 gr. producitur aſcenſio obliqua 11 domus, (abjecto integro circulo ſuperfluo) 27 gr. 2 m.

Rurſus addantur 30 gr. proveniet aſcenſ. obliqua 12 domus. 57 gr. 2 m.

Huic quoque addantur 30 grad. dabitur aſc. obliqua primæ domus 87 gr. 2 m.

Nec non & huic adde gradus 30, fiet aſcenſ. obliqua 2 domus. 117 gr. 2 m.

Tandem & huic adde gr. 30, proveniet aſc. obliqua 3 domus. 147 gr. 2 m.

Quibus ita repertis, intrando tabulam domorum rationalem cum regionis latitudine 52 gr. 40 m. invenies.

Pol à

Poli altitud. { Vndecimæ & tertiæ domus 33 15.
Duodecimæ & 2 domus 48 40.
Primæ domus eſt ipſa regionis latitudo.

Hinc aſcenſioni rectæ 357 2 ſub tabula aſc. rectarum reſpondet gradus eclipticæ 26 46 ♓.

*Eſtque cuſpis decimæ domus.*

Aſc. obliquæ 27 gr. 2 m. in tabula obliquæ aſcenſionis ſub latitudine 33 15, *undecimæ ſcilicet domus* reſpondet gradus eclipticæ 9 20 ♉.

Aſcenſion. obliquæ 57 gr. 2 m. ſub altitudine poli *cuſpidis duodecimæ domus* 48 gr. 40 m. reſpondet 27 9 ♊.

Aſcenſioni obliquæ 87 grad. 2 m. ſub latitudine Alcmariana 52 grad. 40 m. reſpondet gradus eclipticæ. 25 gr. 28 m. ♋.

*Eſtque cuſpis primæ domus ſive Horoſcopus.*

Aſc. obliquæ 117: 2 ſub latitudine 48 40 *domus utpote ſecundæ* reſpondet grad. eclipticæ. 14 gr. 20 m. ♌

Tandem aſc. obliquæ 147 gr. 2 m. reſpondet gradus 2 grad. 10 m. ♍. Idque ſub latitudine 33 gr. 15 m. *utpote 3 domus.*

Atque hoc modo ſex domicilia innoteſcunt, & reliqua ſex per gradus oppoſitorum ſignornm colliguntur.

| Sex domicilia re pertaſunt. | | | | Domicil. oppoſita hoc modo ſe habent | | | |
|---|---|---|---|---|---|---|---|
| 10 | 26 | 46 | ♓ | 4 | 26 | 46 | ♍ |
| 11 | 9 | 20 | ♉ | 5 | 9 | 20 | ♏ |
| 12 | 27 | 9 | ♊ | 6 | 27 | 9 | ♐ |
| 1 | 25 | 28 | ♋ | 7 | 25 | 28 | ♑ |
| 2 | 14 | 20 | ♌ | 8 | 14 | 20 | ♒ |
| 3 | 2 | 10 | ♍ | 9 | 2 | 10 | ♓ |

TABVLA DOMORVM RATIONALIS,

| Latitudo regionis. | *Numerus altitud. polar.* | | | |
|---|---|---|---|---|
| | Vndec. & tet. nec non Nonæ & quintæ domorum. | | Duodec. Secūdæ, & octavæ, ſextæ domorum. | |
| | G | M. | G | M. |
| 38 | 21 | 20 | 34 | 5 |
| 39 | 22 | 2 | 35 | 2 |
| 40 | 22 | 45 | 36 | 0 |
| 41 | 23 | 29 | 36 | 58 |
| 42 | 24 | 14 | 37 | 57 |
| 33 | 25 | 0 | 38 | 56 |
| 44 | 25 | 47 | 39 | 55 |
| 45 | 26 | 34 | 40 | 54 |
| 46 | 27 | 22 | 41 | 53 |
| 47 | 28 | 11 | 42 | 53 |
| 48 | 29 | 2 | 43 | 53 |
| 49 | 29 | 54 | 44 | 54 |
| 50 | 30 | 47 | 45 | 55 |
| 51 | 31 | 41 | 46 | 56 |
| 52 | 32 | 37 | 47 | 57 |
| 53 | 33 | 34 | 48 | 59 |
| 54 | 34 | 32 | 50 | 1 |
| 55 | 35 | 32 | 51 | 3 |
| 56 | 36 | 33 | 52 | 5 |
| 57 | 37 | 35 | 53 | 8 |
| 58 | 38 | 39 | 54 | 11 |
| 59 | 39 | 45 | 55 | 14 |
| 60 | 40 | 53 | 56 | 18 |

# AD
# ADRIANVM METIVM,

*Illuſtris Academiæ Franekeranæ Friſio-rum Profeſſorem Matheматum ad-modum induſtrium, Aſtronomum ἀστρονομικώτατον & excel-lentiſsimum.*

MI Meti, Aſtronome Inclyte, optime omnes
Hos inter, quibus atria ampli Olympi
Curæ eſt noſcere tempore alta noſtro;
Apponi tibi, Principes tot inter
Noſtræ artis, celeberrimum trophæum,
Fas duco. Tuam ego Inſtitutionem,
Qua cœli varios docens meatus
Stellarum vagum iter ſagax notaſti,
Cum primum potui videre, dixi
Exultans, ceciniq́ue: Nunc repertus,
Gaudete, eſt mihi nunc repertus ille
(Archimedis ut iſta vox ſonabat)
Secretarius aſtrici Palatii,
Commentator apertus optimuſq́ue
In Proclum, & Ptolomæi acuta ſcripta,
Quem dudum cupii, en mihi eſt repertus.
Nunc gaudete Academici Scholarchæ,
Iam cunctis data ſphæricis libellis
Lux, nunc VVinſhemio, Sacroque Buſto,
Brucæoque meo, tibiq́ue Clavi,

Et quot ſunt proceres Olympicæ artis,
Lux ſplendens data, fax, jubarque ſplendens.
Nunc Atlas humeros ſuos reducet,
Imponens onus omne Metio uni,
Vt geſtet quoque tempore uſque longo,
Cœli grande volumen inquietus.
Aſtrorum Ptolomæus ille princeps,
Si nunc ad ſuperas rediret auras:
Incuſaret atrocibus Tonantem
Verbis, credo: Quod illa Metio uni
Secreta, atque ſcientiam explicandi
Artes tradidit ille ſiderales.
Quo te nunc titulo ergò docte Meti
Appellem? Tibi quos ferámve honores?
Secretarius Aſtrici es palatii.

D. David Herlicius,

*Phyſicus Ordinarius Lubecenſium, & P.L. Caeſ. lubens meritóque fecit.*

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